```
=> d his

     (FILE 'HOME' ENTERED AT 08:42:17 ON 17 FEB 2007)

     FILE 'CAPLUS, MEDLINE' ENTERED AT 08:42:32 ON 17 FEB 2007
L1           658 S ?CROSS? (P) ?SACCHARIDE? (P) SUPPORT?
L2             6 S ?CROSS? (P) ?SACCHARIDE? (P) SUPPORT? MATERIAL?
L3            75 S ?CROSS? (P) ?SACCHARIDE? (P) SUPPORT? (P) CHROMATO?
L4             7 S L3 AND RADICA?
L5             4 S L3 AND ?ALKYLENE?
L6             1 S L4 AND ?SILI?
L7             2 S L4 AND MEMBRANE?
L8             0 S L4 AND PERCOL?
L9             1 S L4 AND SILANE?
L10            6 S L4 AND ?POLYMER?
L11            0 S L4 AND THREE-DIMENSIONAL
L12            2 S L4 AND NETWORK?
L13            0 S L4 AND BALL?
L14            0 S L4 AND %
L15            0 S L4 AND PERCENT?
L16            0 S L4 AND MINERAL?
L17            2 S L4 AND POROUS
L18            7 S CROSSLINKED POLYMER? (P) SUPPORT? MATERIAL?
L19            2 S CROSS-LINKED POLYMER? (P) SUPPORT? MATERIAL?
L20           10 S CROSS-LINKED POLYMER? (P) SUPPORT? (P) MEMBRANE?
```

```
=> d his

     (FILE 'HOME' ENTERED AT 08:42:17 ON 17 FEB 2007)

     FILE 'CAPLUS, MEDLINE' ENTERED AT 08:42:32 ON 17 FEB 2007
L1          658 S ?CROSS? (P) ?SACCHARIDE? (P) SUPPORT?
L2            6 S ?CROSS? (P) ?SACCHARIDE? (P) SUPPORT? MATERIAL?
L3           75 S ?CROSS? (P) ?SACCHARIDE? (P) SUPPORT? (P) CHROMATO?
L4            7 S L3 AND RADICA?
L5            4 S L3 AND ?ALKYLENE?
L6            1 S L4 AND ?SILI?
L7            2 S L4 AND MEMBRANE?
L8            0 S L4 AND PERCOL?
L9            1 S L4 AND SILANE?
L10           6 S L4 AND ?POLYMER?
L11           0 S L4 AND THREE-DIMENSIONAL
L12           2 S L4 AND NETWORK?
L13           0 S L4 AND BALL?
L14           0 S L4 AND %
L15           0 S L4 AND PERCENT?
L16           0 S L4 AND MINERAL?
L17           2 S L4 AND POROUS
L18           7 S CROSSLINKED POLYMER? (P) SUPPORT? MATERIAL?
L19           2 S CROSS-LINKED POLYMER? (P) SUPPORT? MATERIAL?
L20          10 S CROSS-LINKED POLYMER? (P) SUPPORT? (P) MEMBRANE?
```

L2 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:78099 CAPLUS
DOCUMENT NUMBER: 142:151587
TITLE: Immobilization of oligonucleotides and proteins in sugar-containing hydrogels
INVENTOR(S): Spector, Mark S.; Stenger, David A.; Patterson, Charles H.; Martin, Brett D.; Charles, Paul T.
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 15 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005019884	A1	20050127	US 2003-627143	20030725
CA 2533924	A1	20050224	CA 2004-2533924	20040520
WO 2005017180	A2	20050224	WO 2004-US16082	20040520
WO 2005017180	A3	20050414		
WO 2005017180	A8	20060824		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1649037	A2	20060426	EP 2004-752982	20040520
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK				
JP 2006528778	T	20061221	JP 2006-521816	20040520
US 2006246499	A1	20061102	US 2006-444819	20060519

PRIORITY APPLN. INFO.: US 2003-627143 A 20030725
WO 2004-US16082 W 20040520

AB We describe the novel use of a sugar-containing hydrogels as very highly porous, aqueous support material for the immobilization of oligonucleotides, peptides, proteins, antigens, antibodies, polysaccharides, and other biomols. for sensor applications. The unusually large sizes of the interconnected pores allow large target mols. to pass rapidly into and through the gel and bind to immobilized biomols. An addnl. advantage of the sugar-containing hydrogels are their extremely low non-specific absorption of labeled target mols., providing low background levels. State-of-the-art hydrogel materials do not have this type of homogeneous interconnected macroporosity, thus large target mols. cannot readily diffuse through them. In addition, they nearly always experience non-specific (background) absorption of label target mols., limiting their usefulness in sensor applications. This invention provides a method for preparing a sugar polyacrylate hydrogel with functional chemical groups which covalently bond oligonucleotides and peptides. A method for copolymg. acrylate-terminated oligonucleotides with sugar acrylate monomers and diacrylate crosslinking agents is also provided.

L2 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:340169 CAPLUS
DOCUMENT NUMBER: 138:309343
TITLE: Wound dressing and its preparation
INVENTOR(S): Huang, Linghui

PATENT ASSIGNEE(S): Peop. Rep. China
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 14 pp.
CODEN: CNXXEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1337270	A	20020227	CN 2000-121219	20000807
CN 1136010	B	20040128		

PRIORITY APPLN. INFO.: CN 2000-121219 20000807

AB The wound dressing contains collagen, hyaluronic acid, polysaccharide (such as chondroitin sulfate, alginate, chitosan, chitin), anti-inflammatory agent, growth factor, antibiotics or anti-infectious agent, healing factor etc. The wound dressing is manufactured by coating, crosslinking, or adhering collagen, hyaluronic acid, polysaccharide, and/or other medical materials on the surface of support materials (such as polyurethane).

L2 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2002:369012 CAPLUS
DOCUMENT NUMBER: 136:379289
TITLE: Chloro-, hydroxy- and alkoxysilane derivatives of polysaccharides or oligosaccharides, polymerizable and cross-linkable, their synthesis and their use as sources of novel support materials
INVENTOR(S): Duval, Raphael
PATENT ASSIGNEE(S): Institut Francais du Petrole, Fr.; Chiralsep
SOURCE: U.S. Pat. Appl. Publ., 19 pp., Cont.-in-part of U.S. Ser. No. 394,868.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002058763	A1	20020516	US 2001-808190	20010315
US 6514407	B2	20030204		
FR 2784109	A1	20000407	FR 1998-11377	19980911
FR 2784109	B1	20030926		
US 6346616	B1	20020212	US 1999-394868	19990913

PRIORITY APPLN. INFO.: FR 1998-11377 A 19980911
US 1999-394868 A2 19990913

AB There are described chloro-, hydroxy- and alkoxysilane derivs. of polysaccharides or oligosaccharides as novel compds. which are polymerizable and cross-linkable, and a method for obtaining them; novel support materials obtained from said derivs. and containing said silane derivs. of polysaccharides or oligosaccharides chemical grafted by a covalent bond with the support and polymerized and cross-linked in a three-dimensional network and a method for obtaining them; as well as the use of said material supports in separation or in preparation of enantiomers, through employment in gaseous, liquid or supercrit. chromatog., by electrophoresis, electrochromatog. or by percolation processes through membranes containing said support materials.

L2 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2001:935670 CAPLUS

DOCUMENT NUMBER: 136:55487
TITLE: Materials comprising crosslinked oligo- or polysaccharide chemically bonded to support
INVENTOR(S): Ng, Siu Choon; Ching, Chi Bun; Zhang, Lifeng; Chen, Lei
PATENT ASSIGNEE(S): National University of Singapore, Singapore
SOURCE: PCT Int. Appl., 34 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001098370	A1	20011227	WO 2001-SG130	20010622
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
SG 114468	A1	20050928	SG 2000-4213	20000623
US 2002058588	A1	20020516	US 2001-888088	20010622
US 6720285	B2	20040413		
US 2003159992	A1	20030828	US 2002-54162	20020118
US 2004129640	A9	20040708		
US 2004154987	A1	20040812	US 2004-773020	20040204

PRIORITY APPLN. INFO.: SG 2000-4213 A 20000623
US 2001-888088 A3 20010622

OTHER SOURCE(S): MARPAT 136:55487

AB The material useful for chromatog. and electrophoresis applications comprises a support material and an oligomer or polymer of saccharide that is linked to the support material via urea linkages, and in which the oligomers or polymers are crosslinked via urea linkages. It is particularly valuable as a chiral stationary phase in enantiomeric sepns. and enantiomeric anal. Thus, 4 g of 3-aminopropyltriethoxysilane-treated silica gel and 1.2 g of 6A,6B,6C,6D,6E,6F,6G-heptakisazido-6A,6B,6C,6D,6E,6F,6G-heptakisdeoxy-2A,2B,2C,2D,2E,2F,2G-heptakis-O-phenylcarbamoylated-3A,3B,3C,3D,3E,3F,3G-heptakis-O-phenylcarbamoylated-β-cyclodextrin to give a product, which was introduced into a column (250X4.6 mm) for sep. racemic atropine in MeOH/buffer, at pH=4.67 and flow rate 0.5 mL/min. with peaks detected by UV absorption at 254 nm, showing retention time 7.02/11.14 min., α+5.62 and Rs=4.46.

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1999:603442 CAPLUS
DOCUMENT NUMBER: 131:237321
TITLE: Chromatographic separation of optical isomers
INVENTOR(S): Onishi, Atsushi
PATENT ASSIGNEE(S): Daicel Chemical Industries, Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11255671	A	19990921	JP 1998-59289	19980311

PRIORITY APPLN. INFO.: JP 1998-59289 19980311

AB The title method is characterized by using polysaccharide derivs. as stationary phase and a mix. mobile phase containing hexane and solvents selected from THF, acetone, Et acetate, N,N'-dimethylformamide, N,N'-dimethylacetamide, chloroform, or methylene chloride. The chiral stationary phase is made by coating polysaccharide on a supporting material followed by cross linking and covering with a synthetic polymer.

L2 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1998:42426 CAPLUS
DOCUMENT NUMBER: 128:90217
TITLE: Thermally immobilized polysaccharide derivatives
INVENTOR(S): Francotte, Eric
PATENT ASSIGNEE(S): Novartis A.-G., Switz.; Francotte, Eric
SOURCE: PCT Int. Appl., 24 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9749733	A1	19971231	WO 1997-EP3225	19970620
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW				
RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
CA 2258508	A1	19971231	CA 1997-2258508	19970620
CA 2258508	C	20060404		
AU 9732619	A	19980114	AU 1997-32619	19970620
EP 907663	A1	19990414	EP 1997-928255	19970620
EP 907663	B1	20040310		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2000512678	T	20000926	JP 1998-502302	19970620
AT 261453	T	20040315	AT 1997-928255	19970620
PT 907663	T	20040630	PT 1997-928255	19970620
ES 2217418	T3	20041101	ES 1997-928255	19970620

PRIORITY APPLN. INFO.: CH 1996-1608 A 19960627
WO 1997-EP3225 W 19970620

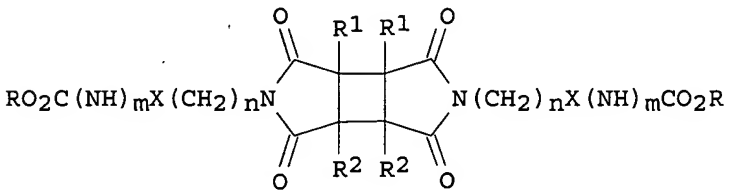
AB The invention essentially relates to thermally crosslinked polysaccharide derivs. which contained no polymerizable functional groups prior to crosslinking and which are used in particular as support materials for the chromatog. separation of enantiomers. In the thermally crosslinked polysaccharide derivs., the OH groups, as OR groups, have been esterified or/and converted into a carbamate (urethane), with the proviso that the OR groups contained no polymerizable double bonds prior to crosslinking. The thermally crosslinked polysaccharides according to the invention in conditioned form can also be used as pure polymers for the chromatog. separation of enantiomers. Thus, suspending 3.5 g amino silanized silica in a solution of 1.6 g cellulose tris(4-methylbenzoate) and 1.6 g AIBN in CH2Cl2, concentrating on an evaporator and drying gave a silica-supported cellulose derivative

L4 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1996:694179 CAPLUS
DOCUMENT NUMBER: 125:315844
TITLE: Photochemically cross-linked polysaccharide derivatives as supports for the chromatographic separation of enantiomers
INVENTOR(S): Francotte, Eric
PATENT ASSIGNEE(S): Ciba-Geigy A.-G., Switz.
SOURCE: PCT Int. Appl., 36 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9627615	A1	19960912	WO 1996-EP773	19960224
W: AL, AM, AU, BB, BG, BR, CA, CN, CZ, EE, FI, GE, HU, IS, JP, KP, KR, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, TR, TT, UA, US, UZ, VN, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
CA 2212057	A1	19960912	CA 1996-2212057	19960224
AU 9649414	A	19960923	AU 1996-49414	19960224
AU 708454	B2	19990805		
EP 813546	A1	19971229	EP 1996-905796	19960224
EP 813546	B1	20020717		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE				
CN 1177358	A	19980325	CN 1996-192364	19960224
HU 9802744	A2	19990329	HU 1998-2744	19960224
JP 11509875	T	19990831	JP 1996-526567	19960224
AT 220691	T	20020815	AT 1996-905796	19960224
PT 813546	T	20021129	PT 1996-905796	19960224
ES 2179935	T3	20030201	ES 1996-905796	19960224
FI 9703149	A	19970904	FI 1997-3149	19970729
FI 116840	B1	20060315		
US 6011149	A	20000104	US 1997-894976	19970902
NO 9704092	A	19970905	NO 1997-4092	19970905

PRIORITY APPLN. INFO.: CH 1995-640 A 19950307
WO 1996-EP773 W 19960224

OTHER SOURCE(S): MARPAT 125:315844
GI



I

AB The present invention relates to photochem. cross-linked polysaccharide derivs. (I), wherein R is a polysaccharide radical in which the OH groups were esterified or OR' groups or converted into a carbamate (urethane), R1 and R2 are each independently lower alkyl or unsubstituted or substituted aryl, X is a direct bond or phenylene, m is 0 or 1, and n is 0 or an integer from 1 to 20, to

processes for the preparation thereof and to the use thereof. (IA) and (IB) can be used as supports in the chromatog. separation of enantiomers.

L4 ANSWER 1 OF 7 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2000:175542 CAPLUS
DOCUMENT NUMBER: 132:231252
TITLE: Chiral supports, stationary phases, and substrates based on polysaccharides and oligosaccharides crosslinked with bissilane-, bisthioether-, bissulphoxyde-, bissulphone- and butanediyl derivatives
INVENTOR(S): Duval, Raphael
PATENT ASSIGNEE(S): Institut Francais Du Petrole, Fr.; Chiralsep Sarl; Eka Chemicals AB
SOURCE: Eur. Pat. Appl., 32 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 985682	A1	20000315	EP 1999-402204	19990907
EP 985682	B1	20051207		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, CY				
FR 2784108	A1	20000407	FR 1998-11376	19980911
AU 9947345	A1	20000608	AU 1999-47345	19990902
AU 769244	B2	20040122		
AT 312121	T	20051215	AT 1999-402204	19990907
ES 2252924	T3	20060516	ES 1999-402204	19990907
CA 2281973	A1	20000311	CA 1999-2281973	19990910
NO 9904411	A	20000313	NO 1999-4411	19990910
JP 2000086702	A	20000328	JP 1999-258550	19990913
US 2001029282	A1	20011011	US 2001-838284	20010420
US 6677446	B2	20040113		
US 2004068106	A1	20040408	US 2003-694844	20031029

PRIORITY APPLN. INFO.:

FR 1998-11376	A	19980911
US 1999-394905	B3	19990913
US 2001-838284	A3	20010420

AB Chiral polysaccharide compns. consist of chiral monosaccharide units (as part of polysaccharide or oligosaccharide chains) crosslinked by components of general structures -X-Y-A[CH2-CHR-CHR-CH2]m-A-Y-X- (I) or -X-Y-A[CH2-CHR-L-CHR-CH2]m-A-Y-X (II), in which X = O or NH; m is a nonzero number <5; R = H or C1-8-alkyl-; Y is a single bond, -NHC(:O)-, -NHC(:S), or -C(:O)-; A is a single bond or C1-21-alkylene; L is a bis-thioether (of general formula -S-W1-W2-W3-S-), a bis-sulfoxide (of general formula -SO-W1-W2-W3-SO-), a bis-sulfone (of general formula -SO2-W1-W2-W3-SO2-), a bis-silane [of general formula -Si(R5)2-R4-Si(R5)2-], in which W1 and W3 are d C1-21-alkylene, C6-18-arylene, or C7-40-aralkylene; -W2 is a single bond, W1, O, S, or a sym. diester of formula -OC(:O)-W1-C(:O)O-, R5 is C1-5-alkyl or H, R4 is -R6-Si[(R5)2-R6-]n (in which R6 is (CH2)o, or O; n = 0-3000, and o = 0-10). The arylene radicals I and II can be substituted by one or more substituents, selected by halogen, C1-4-alkyl, C1-4-alkoxy, and NO2. The monosaccharide chiral units are located at the terminus of structures I and II, such that the overall compns. have the following structures: (MS)-X-Y-A[CH2-CHR-CHR-CH2]m-A-Y-X-(MS) and (MS)-X-Y-A[CH2-CHR-L-CHR-CH2]m-A-Y-X-(MS), in which X, Y, A, R, L, and m are the same as in I and II, and the monosaccharide chiral unit (MS) is part of a linear, branched, or cyclic polysaccharide or oligosaccharide. The compns., which can be polymerized in the presence of a solvent and stabilizers, or deposited on a support , are useful as chiral stationary phases for gas, liquid, and supercrit.

chromatog., especially for separation of enantiomers.
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 2 OF 7 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1998:783022 CAPLUS
DOCUMENT NUMBER: 130:136248
TITLE: Synthesis and characterization of polyethylene glycol polyacrylamide copolymer (PEGA) resins containing carbohydrate ligands. Evaluation as supports for affinity chromatography
AUTHOR(S): Auzanneau, France-Isabelle; Christensen, Mette Knak; Harris, Shannon L.; Meldal, Morten; Pinto, B. Mario
CORPORATE SOURCE: Department of Chemistry, Simon Fraser University, Burnaby, BC, V5A 1S6, Can.
SOURCE: Canadian Journal of Chemistry (1998), 76(8), 1109-1118
CODEN: CJCHAG; ISSN: 0008-4042
PUBLISHER: National Research Council of Canada
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The PEGA resion, a beaded polyethylene glycol dimethylacrylamide copolymer, was evaluated as an affinity support for the purification of carbohydrate-binding macromols., namely, the cation-independent mannosyl phosphate receptor (CI-MPR) and a polyclonal antibody directed against a Streptococcus Group A oligosaccharide. Two polyethylene glycol (PEG) derivs., a di-acryloylated PEG1900 derivative or a longer di-acryloylated PEG4000 derivative, were used as cross -linkers. The longer cross-linker was synthesized in four steps from polyethylene glycol 4000. The mannosyl 6-phosphate (M6P)-containing immunoaffinity columns were prepared through the inverse suspension radical copolymn. of the corresponding allyl glycoside with acrylamide and the PEG cross-linker. The resion with the shorter cross-linker (PEG1900 derivative) had a 3.8% molar crosslinking. For the Streptococcus Group A trisaccharide containing immunoaffinity columns, three PEGA affinity supports bearing free amino group were prepared and subsequently substituted with a trisaccharide activated as its sep. adduct. While one resin contained the shorter cross-linker PEG1900 and had a 3% molar crosslinking, the other two resins contained the longer cross-linker PEG4000 with a molar crosslinking of 5% and 3%, resp. In affinity chromatog. studies, the M6P-containing columns were ineffective in retaining the cation-independent mannosyl phosphate receptor (CI0MPR, .apprx.215 kDa), whereas antibody (.apprx.150 kDa) retention was observed with two of the three Streptococcus Group A trisaccharide-containing immunoaffinity columns.
REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1998:590596 CAPLUS
DOCUMENT NUMBER: 129:272465
TITLE: Biochemical separations by continuous-bed chromatography
AUTHOR(S): Tisch, Theodore L.; Frost, Russ; Liao, Jia-Li; Lam, Wai-Kin; Remy, Arnaud; Scheinpflug, Eddy; Siebert, Chris; Song, Howard; Stapleton, Andrew
CORPORATE SOURCE: Life Science Group, BioMarerials Division, Bio-Rad Laboratories, Hercules, CA, 94547, USA
SOURCE: Journal of Chromatography, A (1998), 816(1), 3-9
CODEN: JCRAEY; ISSN: 0021-9673
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Innovations in column-packing media for biomol. purification have progressed

from large spherical, porous polysaccharide beads to advanced polymeric supports. Continuous-bed technol. is a radical new technol. for chromatog. based on the polymerization of advanced monomers and ionomers directly in the chromatog. column. The polymer chains form aggregates which coalesce into a dense, homogeneous network of interconnected nodules consisting of microparticles with an average diameter of 3000 Å. The voids or channels between the nodules are large enough to permit a high hydrodynamic flow. Due to the high crosslinking of the polymer matrix, the surface of each nodule is nonporous yet the polymeric microparticles provide a very large surface area for high binding capacity. This paper will demonstrate the properties and advantages of using a continuous bed support for high resolution biomol. sepns. at high flow-rates without sacrificing capacity.

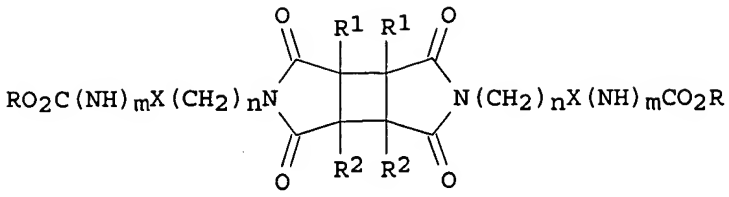
REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1996:694179 CAPLUS
DOCUMENT NUMBER: 125:315844
TITLE: Photochemically cross-linked polysaccharide derivatives as supports for the chromatographic separation of enantiomers
INVENTOR(S): Francotte, Eric
PATENT ASSIGNEE(S): Ciba-Geigy A.-G., Switz.
SOURCE: PCT Int. Appl., 36 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9627615	A1	19960912	WO 1996-EP773	19960224
W: AL, AM, AU, BB, BG, BR, CA, CN, CZ, EE, FI, GE, HU, IS, JP, KP, KR, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, TR, TT, UA, US, UZ, VN, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
CA 2212057	A1	19960912	CA 1996-2212057	19960224
AU 9649414	A	19960923	AU 1996-49414	19960224
AU 708454	B2	19990805		
EP 813546	A1	19971229	EP 1996-905796	19960224
EP 813546	B1	20020717		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE				
CN 1177358	A	19980325	CN 1996-192364	19960224
HU 9802744	A2	19990329	HU 1998-2744	19960224
JP 11509875	T	19990831	JP 1996-526567	19960224
AT 220691	T	20020815	AT 1996-905796	19960224
PT 813546	T	20021129	PT 1996-905796	19960224
ES 2179935	T3	20030201	ES 1996-905796	19960224
FI 9703149	A	19970904	FI 1997-3149	19970729
FI 116840	B1	20060315		
US 6011149	A	20000104	US 1997-894976	19970902
NO 9704092	A	19970905	NO 1997-4092	19970905

PRIORITY APPLN. INFO.: CH 1995-640 A 19950307
WO 1996-EP773 W 19960224

OTHER SOURCE(S): MARPAT 125:315844
GI



I

AB The present invention relates to photochem. cross-linked polysaccharide derivs. (I), wherein R is a polysaccharide radical in which the OH groups were esterified or OR' groups or converted into a carbamate (urethane), R1 and R2 are each independently lower alkyl or unsubstituted or substituted aryl, X is a direct bond or phenylene, m is 0 or 1, and n is 0 or an integer from 1 to 20, to processes for the preparation thereof and to the use thereof. (IA) and (IB) can be used as supports in the chromatog. separation of enantiomers.

L4 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1995:183916 CAPLUS
DOCUMENT NUMBER: 122:56842
TITLE: Preparation of novel poly(ethylene or propylene glycol)-containing polymers as flow-stable support for solid phase synthesis
INVENTOR(S): Meldal, Morten P.
PATENT ASSIGNEE(S): Carlsberg A/S, Den.
SOURCE: U.S., 12 pp. Cont.-in-part of U.S. Ser. No. 835,277 abandoned.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5352756	A	19941004	US 1993-75758	19930611
AT 152143	T	19970515	AT 1993-903869	19930212
ES 2101300	T3	19970701	ES 1993-903869	19930212
PRIORITY APPLN. INFO.:			US 1992-835277 B2	19920213

AB Highly polar, crosslinked title polymers, useful as chromatog. resins or solid supports for the synthesis of peptides, oligonucleotides or oligosaccharides, or for immobilization of proteins, are formed by radical copolymn. of an acrylic amide, nitrile or ester with poly(ethylene or propylene) glycol α,ω-substituted with acryloylalkyl, acryloylaryl, acrylamidoalkyl and acrylamidoaryl group. When used as solid supports or immobilization substrates, the polymers will incorporate a spacer comprising functional groups for the attachment of peptides, proteins, nucleotides or saccharides, e.g. those selected from (alkyl)amino, hydroxy, carboxyl, mercapto, sulfeno, sulfino, sulfo and derivs. thereof. A title polymer was prepared from α,ω-bisacrylamide of an ethylene oxide-propylene oxide copolymer bis(2-aminopropyl) ether (Jeffamine ED 2001), monoacrylamide of a polypropylene glycol bis(aminopropyl) ether (Jeffamine D 400), and N,N-dimethylacrylamide, and its title use was demonstrated in the preparation of an oligopeptide.

L4 ANSWER 6 OF 7 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1994:239685 CAPLUS
DOCUMENT NUMBER: 120:239685
TITLE: Polyethylene- or polypropylene glycol-containing

polymer for use in solid-phase peptide or oligosaccharide synthesis or chromatography

INVENTOR(S): Meldal, Morten Peter
PATENT ASSIGNEE(S): Carlsberg A/S, Den.
SOURCE: PCT Int. Appl., 30 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9316118	A1	19930819	WO 1993-DK51	19930212
W: AU, BR, CA, JP, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU 9334934	A	19930903	AU 1993-34934	19930212
AU 660534	B2	19950629		
EP 625996	A1	19941130	EP 1993-903869	19930212
EP 625996	B1	19970423		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, NL, PT, SE				
JP 07503744	T	19950420	JP 1993-513684	19930212
AT 152143	T	19970515	AT 1993-903869	19930212
ES 2101300	T3	19970701	ES 1993-903869	19930212
BR 9305894	A	19970819	BR 1993-5894	19930212
CA 2129442	C	20030527	CA 1993-2129442	19930212
PRIORITY APPLN. INFO.:			US 1992-835277 A2	19920213
			WO 1993-DK51 A	19930212

AB A crosslinked polyethylene- or polypropylene glycol-containing polymer is prepared by radical copolymn. of an acrylic amide, nitrile, or ester with PEG or polypropylene glycol bis-end substituted with an acryloylalkyl, acryloylaryl, acrylamidoalkyl, or acrylamidoaryl group. This polymer may be used in chromatog. sepns. or as a solid support for continuous flow or batchwise synthesis of peptides, proteins, oligonucleotides, or oligosaccharides. A polymer was prepared from bis-2-acrylamidoprop-1-yl-PEG1900, 2-acrylamidoprop-1-yl[2-aminoprop-1-yl]PEG300, and N,N-dimethylacrylamide. After derivatization with Fmoc-Gly-O-Pfp and then 4-[Fmoc-amino(2,4-dimethoxyphenyl)methyl]phenoxyacetic acid, the polymer was used as solid support for glycopeptide synthesis.

L4 ANSWER 7 OF 7 MEDLINE on STN
ACCESSION NUMBER: 1998413529 MEDLINE
DOCUMENT NUMBER: PubMed ID: 9741095
TITLE: Biochemical separations by continuous-bed chromatography.
AUTHOR: Tisch T L; Frost R; Liao J L; Lam W K; Remy A; Scheinpflug E; Siebert C; Song H; Stapleton A
CORPORATE SOURCE: Bio-Rad Laboratories, BioMaterials Division, Hercules, CA 94547, USA.. ted_tisch@bio-rad.com
SOURCE: Journal of chromatography. A, (1998 Aug 7) Vol. 816, No. 1, pp. 3-9.
Journal code: 9318488. ISSN: 0021-9673.
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199810
ENTRY DATE: Entered STN: 21 Oct 1998
Last Updated on STN: 21 Oct 1998
Entered Medline: 14 Oct 1998

AB Innovations in column-packing media for biomolecule purification have progressed from large spherical, porous polysaccharide beads to advanced polymeric supports. Continuous-bed technology is a radical new technology for chromatography based on the

polymerization of advanced monomers and ionomers directly in the chromatographic column. The polymer chains form aggregates which coalesce into a dense, homogeneous network of interconnected nodules consisting of microparticles with an average diameter of 3000 A. The voids or channels between the nodules are large enough to permit a high hydrodynamic flow. Due to the high cross-linking of the polymer matrix, the surface of each nodule is nonporous yet the polymeric microparticles provide a very large surface area for high binding capacity. This paper will demonstrate the properties and advantages of using a continuous bed support for high resolution biomolecule separations at high flow-rates without sacrificing capacity.

L5 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:964371 CAPLUS
DOCUMENT NUMBER: 145:501541
TITLE: One-pot preparation of silica-supported hybrid immobilized metal affinity adsorbent with macroporous surface based on surface imprinting coating technique combined with polysaccharide incorporated sol-gel process
AUTHOR(S): Li, Feng; Li, Xue-Mei; Zhang, Shu-Sheng
CORPORATE SOURCE: College of Chemistry and Molecular Engineering, Qingdao University of Science and Technology, Qingdao, 266042, Peop. Rep. China
SOURCE: Journal of Chromatography, A (2006), 1129(2), 223-230
CODEN: JCRAEY; ISSN: 0021-9673
PUBLISHER: Elsevier B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A simple and reliable 1-pot approach using surface imprinting coating technique combined with polysaccharide incorporated sol-gel process was established to synthesize a new organic-inorg. hybrid matrix possessing macroporous surface and functional ligand. Using mesoporous silica gel being a support, immobilized metal affinity adsorbent with a macroporous shell/mesoporous core structure was obtained after metal ion loading. In the prepared matrix, covalently bonded coating and morphol. manipulation on silica gel was achieved by using 1-pot sol-gel process starting from an inorg. precursor, <gamma>-glycidoxypropyltrimethoxysiloxane (GPTMS), and a functional biopolymer, chitosan (CS) at the atmospheric of imprinting polyethylene glycol (PEG). Self-hydrolysis of GPTMS, self-condensation, and co-condensation of silanol groups (Si-OH) from siloxane and silica gel surface, and in situ covalent crosslinking of CS created an orderly coating on silica gel surface. PEG extraction using hot NH4OH solution gave a chemical and mech. stabilized pore structure and deactivated residual epoxy groups. The prepared matrix was characterized by using x-ray energy dispersion spectroscopy (EDX), SEM and Hg intrusion porosimetry. The matrix possessed a high capacity for Cu ion loading. Protein adsorption performance of the new immobilized metal affinity adsorbent was evaluated by batch adsorption and column chromatog. experiment using bovine serum albumin (BSA) as a simple model protein. Under the optimized coating conditions, the obtained macroporous surface resulted in a fast kinetics and high capability for protein adsorption, while the matrix noncharged with metal ions offered a low nonspecific adsorption.
REFERENCE COUNT: 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2000:175542 CAPLUS
DOCUMENT NUMBER: 132:231252
TITLE: Chiral supports, stationary phases, and substrates based on polysaccharides and oligosaccharides crosslinked with bissilane-, bisthioether-, bissulphoxyde-, bissulphone- and butanediyl derivatives
INVENTOR(S): Duval, Raphael
PATENT ASSIGNEE(S): Institut Francais Du Petrole, Fr.; Chiralsep Sarl; Eka Chemicals AB
SOURCE: Eur. Pat. Appl., 32 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 985682	A1	20000315	EP 1999-402204	19990907
EP 985682	B1	20051207		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, CY				
FR 2784108	A1	20000407	FR 1998-11376	19980911
AU 9947345	A1	20000608	AU 1999-47345	19990902
AU 769244	B2	20040122		
AT 312121	T	20051215	AT 1999-402204	19990907
ES 2252924	T3	20060516	ES 1999-402204	19990907
CA 2281973	A1	20000311	CA 1999-2281973	19990910
NO 9904411	A	20000313	NO 1999-4411	19990910
JP 2000086702	A	20000328	JP 1999-258550	19990913
US 2001029282	A1	20011011	US 2001-838284	20010420
US 6677446	B2	20040113		
US 2004068106	A1	20040408	US 2003-694844	20031029
PRIORITY APPLN. INFO.:			FR 1998-11376 A	19980911
			US 1999-394905 B3	19990913
			US 2001-838284 A3	20010420

AB Chiral polysaccharide compns. consist of chiral monosaccharide units (as part of polysaccharide or oligosaccharide chains) crosslinked by components of general structures -X-Y-A[CH2-CHR-CHR-CH2]m-A-Y-X- (I) or -X-Y-A[CH2-CHR-L-CHR-CH2]m-A-Y-X (II), in which X = O or NH; m is a nonzero number <5; R = H or C1-8-alkyl-; Y is a single bond, -NHC(:O)-, -NHC(:S), or -C(:O)-; A is a single bond or C1-21-alkylene; L is a bis-thioether (of general formula -S-W1-W2-W3-S-), a bis-sulfoxide (of general formula -SO-W1-W2-W3-SO-), a bis-sulfone (of general formula -SO2-W1-W2-W3-SO2-), a bis-silane [of general formula -Si(R5)2-R4-Si(R5)2-], in which W1 and W3 are d C1-21-alkylene, C6-18-arylene, or C7-40-aralkylene; -W2 is a single bond, W1, O, S, or a sym. diester of formula -OC(:O)-W1-C(:O)O-, R5 is C1-5-alkyl or H, R4 is -R6-Si[(R5)2-R6-]n (in which R6 is (CH2)o, or O; n = 0-3000; and o = 0-10). The arylene radicals I and II can be substituted by one or more substituents, selected by halogen, C1-4-alkyl, C1-4-alkoxy, and NO2. The monosaccharide chiral units are located at the terminus of structures I and II, such that the overall compns. have the following structures: (MS)-X-Y-A[CH2-CHR-CHR-CH2]m-A-Y-X-(MS) and (MS)-X-Y-A[CH2-CHR-L-CHR-CH2]m-A-Y-X-(MS), in which X, Y, A, R, L, and m are the same as in I and II, and the monosaccharide chiral unit (MS) is part of a linear, branched, or cyclic polysaccharide or oligosaccharide. The compns., which can be polymerized in the presence of a solvent and stabilizers, or deposited on a support , are useful as chiral stationary phases for gas, liquid, and supercrit.. chromatog., especially for separation of enantiomers.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1998:783022 CAPLUS

DOCUMENT NUMBER: 130:136248

TITLE: Synthesis and characterization of polyethylene glycol polyacrylamide copolymer (PEGA) resins containing carbohydrate ligands. Evaluation as supports for affinity chromatography

AUTHOR(S): Auzanneau, France-Isabelle; Christensen, Mette Knak; Harris, Shannon L.; Meldal, Morten; Pinto, B. Mario

CORPORATE SOURCE: Department of Chemistry, Simon Fraser University, Burnaby, BC, V5A 1S6, Can.

SOURCE: Canadian Journal of Chemistry (1998), 76(8), 1109-1118
CODEN: CJCHAG; ISSN: 0008-4042

PUBLISHER: National Research Council of Canada

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The PEGA resion, a beaded polyethylene glycol dimethylacrylamide copolymer, was evaluated as an affinity support for the purification of carbohydrate-binding macromols., namely, the cation-independent mannosyl phosphate receptor (CI-MPR) and a polyclonal antibody directed against a Streptococcus Group A oligosaccharide. Two polyethylene glycol (PEG) derivs., a di-acryloylated PEG1900 derivative or a longer di-acryloylated PEG4000 derivative, were used as cross -linkers. The longer cross-linker was synthesized in four steps from polyethylene glycol 4000. The mannosyl 6-phosphate (M6P)-containing immunoaffinity columns were prepared through the inverse suspension radical copolymn. of the corresponding allyl glycoside with acrylamide and the PEG cross-linker. The resion with the shorter cross-linker (PEG1900 derivative) had a 3.8% molar crosslinking. For the Streptococcus Group A trisaccharide containing immunoaffinity columns, three PEGA affinity supports bearing free amino group were prepared and subsequently substituted with a trisaccharide activated as its sep. adduct. While one resin contained the shorter cross-linker PEG1900 and had a 3% molar crosslinking, the other two resins contained the longer cross-linker PEG4000 with a molar crosslinking of 5% and 3%, resp. In affinity chromatog. studies, the M6P-containing columns were ineffective in retaining the cation-independent mannosyl phosphate receptor (CI0MPR, .apprx.215 kDa), whereas antibody (.apprx.150 kDa) retention was observed with two of the three Streptococcus Group A trisaccharide-containing immunoaffinity columns.

REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1995:183916 CAPLUS

DOCUMENT NUMBER: 122:56842

TITLE: Preparation of novel poly(ethylene or propylene glycol)-containing polymers as flow-stable support for solid phase synthesis

INVENTOR(S): Meldal, Morten P.

PATENT ASSIGNEE(S): Carlsberg A/S, Den.

SOURCE: U.S., 12 pp. Cont.-in-part of U.S. Ser. No. 835,277 abandoned.
CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5352756	A	19941004	US 1993-75758	19930611
AT 152143	T	19970515	AT 1993-903869	19930212
ES 2101300	T3	19970701	ES 1993-903869	19930212
PRIORITY APPLN. INFO.:			US 1992-835277 B2	19920213

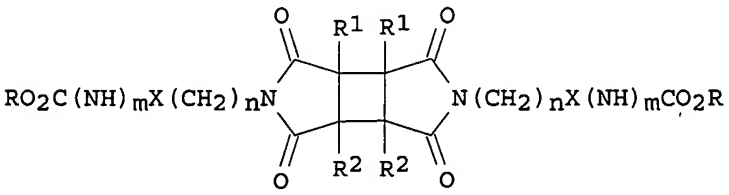
AB Highly polar, crosslinked title polymers, useful as chromatog. resins or solid supports for the synthesis of peptides, oligonucleotides or oligosaccharides, or for immobilization of proteins, are formed by radical copolymn. of an acrylic amide, nitrile or ester with poly(ethylene or propylene) glycol α,ω-substituted with acryloylalkyl, acryloylaryl, acrylamidoalkyl and acrylamidoaryl group. When used as solid supports or immobilization substrates, the polymers will incorporate a spacer comprising functional groups for the attachment of peptides, proteins, nucleotides or saccharides, e.g. those selected from (alkyl)amino, hydroxy, carboxyl, mercapto, sulfeno, sulfino, sulfo and derivs. thereof. A title polymer was prepared from α,ω-bisacrylamide of an ethylene oxide-propylene oxide

copolymer bis(2-aminopropyl) ether (Jeffamine ED 2001), monoacrylamide of a polypropylene glycol bis(aminopropyl) ether (Jeffamine D 400), and N,N-dimethylacrylamide, and its title use was demonstrated in the preparation of an oligopeptide.

L6 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1996:694179 CAPLUS
DOCUMENT NUMBER: 125:315844
TITLE: Photochemically cross-linked polysaccharide derivatives as supports for the chromatographic separation of enantiomers
INVENTOR(S): Francotte, Eric
PATENT ASSIGNEE(S): Ciba-Geigy A.-G., Switz.
SOURCE: PCT Int. Appl., 36 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9627615	A1	19960912	WO 1996-EP773	19960224
W: AL, AM, AU, BB, BG, BR, CA, CN, CZ, EE, FI, GE, HU, IS, JP, KP, KR, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, TR, TT, UA, US, UZ, VN, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
CA 2212057	A1	19960912	CA 1996-2212057	19960224
AU 9649414	A	19960923	AU 1996-49414	19960224
AU 708454	B2	19990805		
EP 813546	A1	19971229	EP 1996-905796	19960224
EP 813546	B1	20020717		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE				
CN 1177358	A	19980325	CN 1996-192364	19960224
HU 9802744	A2	19990329	HU 1998-2744	19960224
JP 11509875	T	19990831	JP 1996-526567	19960224
AT 220691	T	20020815	AT 1996-905796	19960224
PT 813546	T	20021129	PT 1996-905796	19960224
ES 2179935	T3	20030201	ES 1996-905796	19960224
FI 9703149	A	19970904	FI 1997-3149	19970729
FI 116840	B1	20060315		
US 6011149	A	20000104	US 1997-894976	19970902
NO 9704092	A	19970905	NO 1997-4092	19970905
PRIORITY APPLN. INFO.:			CH 1995-640 A	19950307
			WO 1996-EP773 W	19960224

OTHER SOURCE(S): MARPAT 125:315844
GI



I

AB The present invention relates to photochem. cross-linked polysaccharide derivs. (I), wherein R is a polysaccharide radical in which the OH groups were esterified or OR' groups or converted into a carbamate (urethane), R1 and R2 are each independently lower alkyl or unsubstituted or substituted aryl, X is a direct bond or phenylene, m is 0 or 1, and n is 0 or an integer from 1 to 20, to

processes for the preparation thereof and to the use thereof. (IA) and (IB) can be used as supports in the chromatog. separation of enantiomers.

L7 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2000:175542 CAPLUS
DOCUMENT NUMBER: 132:231252
TITLE: Chiral supports, stationary phases, and substrates based on polysaccharides and oligosaccharides crosslinked with bissilane-, bisthioether-, bissulphoxyde-, bissulphone- and butanediyl derivatives
INVENTOR(S): Duval, Raphael
PATENT ASSIGNEE(S): Institut Francais Du Petrole, Fr.; Chiralsep Sarl; Eka Chemicals AB
SOURCE: Eur. Pat. Appl., 32 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 985682	A1	20000315	EP 1999-402204	19990907
EP 985682	B1	20051207		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, CY				
FR 2784108	A1	20000407	FR 1998-11376	19980911
AU 9947345	A1	20000608	AU 1999-47345	19990902
AU 769244	B2	20040122		
AT 312121	T	20051215	AT 1999-402204	19990907
ES 2252924	T3	20060516	ES 1999-402204	19990907
CA 2281973	A1	20000311	CA 1999-2281973	19990910
NO 9904411	A	20000313	NO 1999-4411	19990910
JP 2000086702	A	20000328	JP 1999-258550	19990913
US 2001029282	A1	20011011	US 2001-838284	20010420
US 6677446	B2	20040113		
US 2004068106	A1	20040408	US 2003-694844	20031029

PRIORITY APPLN. INFO.:
FR 1998-11376 A 19980911
US 1999-394905 B3 19990913
US 2001-838284 A3 20010420

AB Chiral polysaccharide compns. consist of chiral monosaccharide units (as part of polysaccharide or oligosaccharide chains) crosslinked by components of general structures -X-Y-A[CH2-CHR-CHR-CH2]m-A-Y-X- (I) or -X-Y-A[CH2-CHR-L-CHR-CH2]m-A-Y-X (II), in which X = O or NH; m is a nonzero number <5; R = H or C1-8-alkyl-; Y is a single bond, -NHC(:O)-, -NHC(:S), or -C(:O)-; A is a single bond or C1-21-alkylene; L is a bis-thioether (of general formula -S-W1-W2-W3-S-), a bis-sulfoxide (of general formula -SO-W1-W2-W3-SO-), a bis-sulfone (of general formula -SO2-W1-W2-W3-SO2-), a bis-silane [of general formula -Si(R5)2-R4-Si(R5)2-], in which W1 and W3 are d C1-21-alkylene, C6-18-arylene, or C7-40-aralkylene; -W2 is a single bond, W1, O, S, or a sym. diester of formula -OC(:O)-W1-C(:O)O-, R5 is C1-5-alkyl or H, R4 is -R6-Si[(R5)2-R6-]n (in which R6 is (CH2)o, or O; n = 0-3000, and o = 0-10). The arylene radicals I and II can be substituted by one or more substituents, selected by halogen, C1-4-alkyl, C1-4-alkoxy, and NO2. The monosaccharide chiral units are located at the terminus of structures I and II, such that the overall compns. have the following structures: (MS)-X-Y-A[CH2-CHR-CHR-CH2]m-A-Y-X-(MS) and (MS)-X-Y-A[CH2-CHR-L-CHR-CH2]m-A-Y-X-(MS), in which X, Y, A, R, L, and m are the same as in I and II, and the monosaccharide chiral unit (MS) is part of a linear, branched, or cyclic polysaccharide or oligosaccharide. The compns., which can be polymerized in the presence of a solvent and stabilizers, or deposited on a support , are useful as chiral stationary phases for gas, liquid, and supercrit.

chromatog., especially for separation of enantiomers.
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1998:783022 CAPLUS
DOCUMENT NUMBER: 130:136248
TITLE: Synthesis and characterization of polyethylene glycol polyacrylamide copolymer (PEGA) resins containing carbohydrate ligands. Evaluation as supports for affinity chromatography
AUTHOR(S): Auzanneau, France-Isabelle; Christensen, Mette Knak; Harris, Shannon L.; Meldal, Morten; Pinto, B. Mario
CORPORATE SOURCE: Department of Chemistry, Simon Fraser University, Burnaby, BC, V5A 1S6, Can.
SOURCE: Canadian Journal of Chemistry (1998), 76(8), 1109-1118
CODEN: CJCHAG; ISSN: 0008-4042
PUBLISHER: National Research Council of Canada
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The PEGA resion, a beaded polyethylene glycol dimethylacrylamide copolymer, was evaluated as an affinity support for the purification of carbohydrate-binding macromols., namely, the cation-independent mannosyl phosphate receptor (CI-MPR) and a polyclonal antibody directed against a Streptococcus Group A oligosaccharide. Two polyethylene glycol (PEG) derivs., a di-acryloylated PEG1900 derivative or a longer di-acryloylated PEG4000 derivative, were used as cross -linkers. The longer cross-linker was synthesized in four steps from polyethylene glycol 4000. The mannosyl 6-phosphate (M6P)-containing immunoaffinity columns were prepared through the inverse suspension radical copolymn. of the corresponding allyl glycoside with acrylamide and the PEG cross-linker. The resion with the shorter cross-linker (PEG1900 derivative) had a 3.8% molar crosslinking. For the Streptococcus Group A trisaccharide containing immunoaffinity columns, three PEGA affinity supports bearing free amino group were prepared and subsequently substituted with a trisaccharide activated as its sep. adduct. While one resin contained the shorter cross-linker PEG1900 and had a 3% molar crosslinking, the other two resins contained the longer cross-linker PEG4000 with a molar crosslinking of 5% and 3%, resp. In affinity chromatog. studies, the M6P-containing columns were ineffective in retaining the cation-independent mannosyl phosphate receptor (CI0MPR, .apprx.215 kDa), whereas antibody (.apprx.150 kDa) retention was observed with two of the three Streptococcus Group A trisaccharide-containing immunoaffinity columns.
REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

9 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2000:175542 CAPLUS
DOCUMENT NUMBER: 132:231252
TITLE: Chiral supports, stationary phases, and substrates based on polysaccharides and oligosaccharides crosslinked with bissilane-, bisthioether-, bissulphoxyde-, bissulphone- and butanediyl derivatives
INVENTOR(S): Duval, Raphael
PATENT ASSIGNEE(S): Institut Francais Du Petrole, Fr.; Chiralsep Sarl; Eka Chemicals AB
SOURCE: Eur. Pat. Appl., 32 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 985682	A1	20000315	EP 1999-402204	19990907
EP 985682	B1	20051207		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, CY				
FR 2784108	A1	20000407	FR 1998-11376	19980911
AU 9947345	A1	20000608	AU 1999-47345	19990902
AU 769244	B2	20040122		
AT 312121	T	20051215	AT 1999-402204	19990907
ES 2252924	T3	20060516	ES 1999-402204	19990907
CA 2281973	A1	20000311	CA 1999-2281973	19990910
NO 9904411	A	20000313	NO 1999-4411	19990910
JP 2000086702	A	20000328	JP 1999-258550	19990913
US 2001029282	A1	20011011	US 2001-838284	20010420
US 6677446	B2	20040113		
US 2004068106	A1	20040408	US 2003-694844	20031029

PRIORITY APPLN. INFO.:
FR 1998-11376 A 19980911
US 1999-394905 B3 19990913
US 2001-838284 A3 20010420

AB Chiral polysaccharide compns. consist of chiral monosaccharide units (as part of polysaccharide or oligosaccharide chains) crosslinked by components of general structures -X-Y-A[CH2-CHR-CHR-CH2]m-A-Y-X- (I) or -X-Y-A[CH2-CHR-L-CHR-CH2]m-A-Y-X (II), in which X = O or NH; m is a nonzero number <5; R = H or C1-8-alkyl-; Y is a single bond, -NHC(:O)-, -NHC(:S), or -C(:O)-; A is a single bond or C1-21-alkylene; L is a bis-thioether (of general formula -S-W1-W2-W3-S-), a bis-sulfoxide (of general formula -SO-W1-W2-W3-SO-), a bis-sulfone (of general formula -SO2-W1-W2-W3-SO2-), a bis-silane [of general formula -Si(R5)2-R4-Si(R5)2-], in which W1 and W3 are d C1-21-alkylene, C6-18-arylene, or C7-40-aralkylene; -W2 is a single bond, W1, O, S, or a sym. diester of formula -OC(:O)-W1-C(:O)O-, R5 is C1-5-alkyl or H, R4 is -R6-Si[(R5)2-R6-]n (in which R6 is (CH2)o, or O; n = 0-3000, and o = 0-10). The arylene radicals I and II can be substituted by one or more substituents, selected by halogen, C1-4-alkyl, C1-4-alkoxy, and NO2. The monosaccharide chiral units are located at the terminus of structures I and II, such that the overall compns. have the following structures: (MS)-X-Y-A[CH2-CHR-CHR-CH2]m-A-Y-X-(MS) and (MS)-X-Y-A[CH2-CHR-L-CHR-CH2]m-A-Y-X-(MS), in which X, Y, A, R, L, and m are the same as in I and II, and the monosaccharide chiral unit (MS) is part of a linear, branched, or cyclic polysaccharide or oligosaccharide. The compns., which can be polymerized in the presence of a solvent and stabilizers, or deposited on a support , are useful as chiral stationary phases for gas, liquid, and supercrit. chromatog., especially for separation of enantiomers.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2000:175542 CAPLUS
DOCUMENT NUMBER: 132:231252
TITLE: Chiral supports, stationary phases, and substrates based on polysaccharides and oligosaccharides crosslinked with bissilane-, bisthioether-, bissulphoxyde-, bissulphone- and butanediyl derivatives
INVENTOR(S): Duval, Raphael
PATENT ASSIGNEE(S): Institut Francais Du Petrole, Fr.; Chiralsep Sarl; Eka Chemicals AB
SOURCE: Eur. Pat. Appl., 32 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 985682	A1	20000315	EP 1999-402204	19990907
EP 985682	B1	20051207		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, CY				
FR 2784108	A1	20000407	FR 1998-11376	19980911
AU 9947345	A1	20000608	AU 1999-47345	19990902
AU 769244	B2	20040122		
AT 312121	T	20051215	AT 1999-402204	19990907
ES 2252924	T3	20060516	ES 1999-402204	19990907
CA 2281973	A1	20000311	CA 1999-2281973	19990910
NO 9904411	A	20000313	NO 1999-4411	19990910
JP 2000086702	A	20000328	JP 1999-258550	19990913
US 2001029282	A1	20011011	US 2001-838284	20010420
US 6677446	B2	20040113		
US 2004068106	A1	20040408	US 2003-694844	20031029

PRIORITY APPLN. INFO.:
FR 1998-11376 A 19980911
US 1999-394905 B3 19990913
US 2001-838284 A3 20010420

AB Chiral polysaccharide compns. consist of chiral monosaccharide units (as part of polysaccharide or oligosaccharide chains) crosslinked by components of general structures -X-Y-A[CH2-CHR-CHR-CH2]m-A-Y-X- (I) or -X-Y-A[CH2-CHR-L-CHR-CH2]m-A-Y-X (II), in which X = O or NH; m is a nonzero number <5; R = H or C1-8-alkyl-; Y is a single bond, -NHC(:O)-, -NHC(:S), or -C(:O)-; A is a single bond or C1-21-alkylene; L is a bis-thioether (of general formula -S-W1-W2-W3-S-), a bis-sulfoxide (of general formula -SO-W1-W2-W3-SO-), a bis-sulfone (of general formula -SO2-W1-W2-W3-SO2-), a bis-silane [of general formula -Si(R5)2-R4-Si(R5)2-], in which W1 and W3 are d C1-21-alkylene, C6-18-arylene, or C7-40-aralkylene; -W2 is a single bond, W1, O, S, or a sym. diester of formula -OC(:O)-W1-C(:O)O-, R5 is C1-5-alkyl or H, R4 is -R6-Si[(R5)2-R6-]n (in which R6 is (CH2)o, or O; n = 0-3000, and o = 0-10). The arylene radicals I and II can be substituted by one or more substituents, selected by halogen, C1-4-alkyl, C1-4-alkoxy, and NO2. The monosaccharide chiral units are located at the terminus of structures I and II, such that the overall compns. have the following structures: (MS)-X-Y-A[CH2-CHR-CHR-CH2]m-A-Y-X-(MS) and (MS)-X-Y-A[CH2-CHR-L-CHR-CH2]m-A-Y-X-(MS), in which X, Y, A, R, L, and m are the same as in I and II, and the monosaccharide chiral unit (MS) is part of a linear, branched, or cyclic polysaccharide or oligosaccharide. The compns., which can be polymerized in the presence of a solvent and stabilizers, or deposited on a support , are useful as chiral stationary phases for gas, liquid, and supercrit.

chromatog., especially for separation of enantiomers.
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1998:783022 CAPLUS
DOCUMENT NUMBER: 130:136248
TITLE: Synthesis and characterization of polyethylene glycol polyacrylamide copolymer (PEGA) resins containing carbohydrate ligands. Evaluation as supports for affinity chromatography
AUTHOR(S): Auzanneau, France-Isabelle; Christensen, Mette Knak; Harris, Shannon L.; Meldal, Morten; Pinto, B. Mario
CORPORATE SOURCE: Department of Chemistry, Simon Fraser University, Burnaby, BC, V5A 1S6, Can.
SOURCE: Canadian Journal of Chemistry (1998), 76(8), 1109-1118
CODEN: CJCHAG; ISSN: 0008-4042
PUBLISHER: National Research Council of Canada
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The PEGA resion, a beaded polyethylene glycol dimethylacrylamide copolymer, was evaluated as an affinity support for the purification of carbohydrate-binding macromols., namely, the cation-independent mannosyl phosphate receptor (CI-MPR) and a polyclonal antibody directed against a Streptococcus Group A oligosaccharide. Two polyethylene glycol (PEG) derivs., a di-acryloylated PEG1900 derivative or a longer di-acryloylated PEG4000 derivative, were used as cross -linkers. The longer cross-linker was synthesized in four steps from polyethylene glycol 4000. The mannosyl 6-phosphate (M6P)-containing immunoaffinity columns were prepared through the inverse suspension radical copolymn. of the corresponding allyl glycoside with acrylamide and the PEG cross-linker. The resion with the shorter cross-linker (PEG1900 derivative) had a 3.8% molar crosslinking. For the Streptococcus Group A trisaccharide containing immunoaffinity columns, three PEGA affinity supports bearing free amino group were prepared and subsequently substituted with a trisaccharide activated as its sep. adduct. While one resin contained the shorter cross-linker PEG1900 and had a 3% molar crosslinking, the other two resins contained the longer cross-linker PEG4000 with a molar crosslinking of 5% and 3%, resp. In affinity chromatog. studies, the M6P-containing columns were ineffective in retaining the cation-independent mannosyl phosphate receptor (CI0MPR, .apprx.215 kDa), whereas antibody (.apprx.150 kDa) retention was observed with two of the three Streptococcus Group A trisaccharide-containing immunoaffinity columns.
REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1998:590596 CAPLUS
DOCUMENT NUMBER: 129:272465
TITLE: Biochemical separations by continuous-bed chromatography
AUTHOR(S): Tisch, Theodore L.; Frost, Russ; Liao, Jia-Li; Lam, Wai-Kin; Remy, Arnaud; Scheinpflug, Eddy; Siebert, Chris; Song, Howard; Stapleton, Andrew
CORPORATE SOURCE: Life Science Group, BioMarerials Division, Bio-Rad Laboratories, Hercules, CA, 94547, USA
SOURCE: Journal of Chromatography, A (1998), 816(1), 3-9
CODEN: JCRAEY; ISSN: 0021-9673
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Innovations in column-packing media for biomol. purification have progressed

from large spherical, porous polysaccharide beads to advanced polymeric supports. Continuous-bed technol. is a radical new technol. for chromatog. based on the polymerization of advanced monomers and ionomers directly in the chromatog. column. The polymer chains form aggregates which coalesce into a dense, homogeneous network of interconnected nodules consisting of microparticles with an average diameter of 3000 Å. The voids or channels between the nodules are large enough to permit a high hydrodynamic flow. Due to the high crosslinking of the polymer matrix, the surface of each nodule is nonporous yet the polymeric microparticles provide a very large surface area for high binding capacity. This paper will demonstrate the properties and advantages of using a continuous bed support for high resolution biomol. sepns. at high flow-rates without sacrificing capacity.

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1995:183916 CAPLUS
DOCUMENT NUMBER: 122:56842
TITLE: Preparation of novel poly(ethylene or propylene glycol)-containing polymers as flow-stable support for solid phase synthesis
INVENTOR(S): Meldal, Morten P.
PATENT ASSIGNEE(S): Carlsberg A/S, Den.
SOURCE: U.S., 12 pp. Cont.-in-part of U.S. Ser. No. 835,277 abandoned.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5352756	A	19941004	US 1993-75758	19930611
AT 152143	T	19970515	AT 1993-903869	19930212
ES 2101300	T3	19970701	ES 1993-903869	19930212
PRIORITY APPLN. INFO.:			US 1992-835277 B2	19920213

AB Highly polar, crosslinked title polymers, useful as chromatog. resins or solid supports for the synthesis of peptides, oligonucleotides or oligosaccharides, or for immobilization of proteins, are formed by radical copolymn. of an acrylic amide, nitrile or ester with poly(ethylene or propylene) glycol α,ω-substituted with acryloylalkyl, acryloylaryl, acrylamidoalkyl and acrylamidoaryl group. When used as solid supports or immobilization substrates, the polymers will incorporate a spacer comprising functional groups for the attachment of peptides, proteins, nucleotides or saccharides, e.g. those selected from (alkyl)amino, hydroxy, carboxyl, mercapto, sulfeno, sulfino, sulfo and derivs. thereof. A title polymer was prepared from α,ω-bisacrylamide of an ethylene oxide-propylene oxide copolymer bis(2-aminopropyl) ether (Jeffamine ED 2001), monoacrylamide of a polypropylene glycol bis(aminopropyl) ether (Jeffamine D 400), and N,N-dimethylacrylamide, and its title use was demonstrated in the preparation of an oligopeptide.

L10 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1994:239685 CAPLUS
DOCUMENT NUMBER: 120:239685
TITLE: Polyethylene- or polypropylene glycol-containing polymer for use in solid-phase peptide or oligosaccharide synthesis or chromatography
INVENTOR(S): Meldal, Morten Peter

PATENT ASSIGNEE(S): Carlsberg A/S, Den.
SOURCE: PCT Int. Appl., 30 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9316118	A1	19930819	WO 1993-DK51	19930212
W: AU, BR, CA, JP, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU 9334934	A	19930903	AU 1993-34934	19930212
AU 660534	B2	19950629		
EP 625996	A1	19941130	EP 1993-903869	19930212
EP 625996	B1	19970423		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, NL, PT, SE				
JP 07503744	T	19950420	JP 1993-513684	19930212
AT 152143	T	19970515	AT 1993-903869	19930212
ES 2101300	T3	19970701	ES 1993-903869	19930212
BR 9305894	A	19970819	BR 1993-5894	19930212
CA 2129442	C	20030527	CA 1993-2129442	19930212
PRIORITY APPLN. INFO.:			US 1992-835277 A2	19920213
			WO 1993-DK51 A	19930212

AB A crosslinked polyethylene- or polypropylene glycol-containing polymer is prepared by radical copolymn. of an acrylic amide, nitrile, or ester with PEG or polypropylene glycol bis-end substituted with an acryloylalkyl, acryloylaryl, acrylamidoalkyl, or acrylamidoaryl group. This polymer may be used in chromatog. sepns. or as a solid support for continuous flow or batchwise synthesis of peptides, proteins, oligonucleotides, or oligosaccharides. A polymer was prepared from bis-2-acrylamidoprop-1-yl-PEG1900, 2-acrylamidoprop-1-yl[2-aminoprop-1-yl]PEG300, and N,N-dimethylacrylamide. After derivatization with Fmoc-Gly-O-Pfp and then 4-[Fmoc-amino(2,4-dimethoxyphenyl)methyl]phenoxyacetic acid, the polymer was used as solid support for glycopeptide synthesis.

L10 ANSWER 6 OF 6 MEDLINE on STN
ACCESSION NUMBER: 1998413529 MEDLINE
DOCUMENT NUMBER: PubMed ID: 9741095
TITLE: Biochemical separations by continuous-bed chromatography.
AUTHOR: Tisch T L; Frost R; Liao J L; Lam W K; Remy A; Scheinpflug E; Siebert C; Song H; Stapleton A
CORPORATE SOURCE: Bio-Rad Laboratories, BioMaterials Division, Hercules, CA 94547, USA.. ted_tisch@bio-rad.com
SOURCE: Journal of chromatography. A, (1998 Aug 7) Vol. 816, No. 1, pp. 3-9.
Journal code: 9318488. ISSN: 0021-9673.
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199810
ENTRY DATE: Entered STN: 21 Oct 1998
Last Updated on STN: 21 Oct 1998
Entered Medline: 14 Oct 1998

AB Innovations in column-packing media for biomolecule purification have progressed from large spherical, porous polysaccharide beads to advanced polymeric supports. Continuous-bed technology is a radical new technology for chromatography based on the polymerization of advanced monomers and ionomers directly in the chromatographic column.

The polymer chains form aggregates which coalesce into a dense, homogeneous network of interconnected nodules consisting of microparticles with an average diameter of 3000 A. The voids or channels between the nodules are large enough to permit a high hydrodynamic flow. Due to the high cross-linking of the polymer matrix, the surface of each nodule is nonporous yet the polymeric microparticles provide a very large surface area for high binding capacity. This paper will demonstrate the properties and advantages of using a continuous bed support for high resolution biomolecule separations at high flow-rates without sacrificing capacity.

L12 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1998:590596 CAPLUS
DOCUMENT NUMBER: 129:272465
TITLE: Biochemical separations by continuous-bed chromatography
AUTHOR(S): Tisch, Theodore L.; Frost, Russ; Liao, Jia-Li; Lam, Wai-Kin; Remy, Arnaud; Scheinpflug, Eddy; Siebert, Chris; Song, Howard; Stapleton, Andrew
CORPORATE SOURCE: Life Science Group, BioMarerials Division, Bio-Rad Laboratories, Hercules, CA, 94547, USA
SOURCE: Journal of Chromatography, A (1998), 816(1), 3-9
CODEN: JCRAEY; ISSN: 0021-9673
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Innovations in column-packing media for biomol. purification have progressed from large spherical, porous polysaccharide beads to advanced polymeric supports. Continuous-bed technol. is a radical new technol. for chromatog. based on the polymerization of advanced monomers and ionomers directly in the chromatog. column. The polymer chains form aggregates which coalesce into a dense, homogeneous network of interconnected nodules consisting of microparticles with an average diameter of 3000 Å. The voids or channels between the nodules are large enough to permit a high hydrodynamic flow. Due to the high crosslinking of the polymer matrix, the surface of each nodule is nonporous yet the polymeric microparticles provide a very large surface area for high binding capacity. This paper will demonstrate the properties and advantages of using a continuous bed support for high resolution biomol. sepns. at high flow-rates without sacrificing capacity.
REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 2 OF 2 MEDLINE on STN
ACCESSION NUMBER: 1998413529 MEDLINE
DOCUMENT NUMBER: PubMed ID: 9741095
TITLE: Biochemical separations by continuous-bed chromatography.
AUTHOR: Tisch T L; Frost R; Liao J L; Lam W K; Remy A; Scheinpflug E; Siebert C; Song H; Stapleton A
CORPORATE SOURCE: Bio-Rad Laboratories, BioMaterials Division, Hercules, CA 94547, USA.. ted_tisch@bio-rad.com
SOURCE: Journal of chromatography. A, (1998 Aug 7) Vol. 816, No. 1, pp. 3-9.
Journal code: 9318488. ISSN: 0021-9673.
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199810
ENTRY DATE: Entered STN: 21 Oct 1998
Last Updated on STN: 21 Oct 1998
Entered Medline: 14 Oct 1998
AB Innovations in column-packing media for biomolecule purification have progressed from large spherical, porous polysaccharide beads to advanced polymeric supports. Continuous-bed technology is a radical new technology for chromatography based on the polymerization of advanced monomers and ionomers directly in the chromatographic column. The polymer chains form aggregates which coalesce into a dense, homogeneous network of interconnected nodules consisting of microparticles with an average diameter of 3000 A. The voids or channels between the nodules are large enough to permit a high hydrodynamic flow. Due to the high cross-linking of the polymer matrix, the surface of each nodule is nonporous yet the polymeric

microparticles provide a very large surface area for high binding capacity. This paper will demonstrate the properties and advantages of using a continuous bed support for high resolution biomolecule separations at high flow-rates without sacrificing capacity.

L17 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1998:590596 CAPLUS
DOCUMENT NUMBER: 129:272465
TITLE: Biochemical separations by continuous-bed chromatography
AUTHOR(S): Tisch, Theodore L.; Frost, Russ; Liao, Jia-Li; Lam, Wai-Kin; Remy, Arnaud; Scheinpflug, Eddy; Siebert, Chris; Song, Howard; Stapleton, Andrew
CORPORATE SOURCE: Life Science Group, BioMarerials Division, Bio-Rad Laboratories, Hercules, CA, 94547, USA
SOURCE: Journal of Chromatography, A (1998), 816(1), 3-9
CODEN: JCRAEY; ISSN: 0021-9673
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Innovations in column-packing media for biomol. purification have progressed from large spherical, porous polysaccharide beads to advanced polymeric supports. Continuous-bed technol. is a radical new technol. for chromatog. based on the polymerization of advanced monomers and ionomers directly in the chromatog. column. The polymer chains form aggregates which coalesce into a dense, homogeneous network of interconnected nodules consisting of microparticles with an average diameter of 3000 Å. The voids or channels between the nodules are large enough to permit a high hydrodynamic flow. Due to the high crosslinking of the polymer matrix, the surface of each nodule is nonporous yet the polymeric microparticles provide a very large surface area for high binding capacity. This paper will demonstrate the properties and advantages of using a continuous bed support for high resolution biomol. sepns. at high flow-rates without sacrificing capacity.
REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 2 OF 2 MEDLINE on STN
ACCESSION NUMBER: 1998413529 MEDLINE
DOCUMENT NUMBER: PubMed ID: 9741095
TITLE: Biochemical separations by continuous-bed chromatography.
AUTHOR: Tisch T L; Frost R; Liao J L; Lam W K; Remy A; Scheinpflug E; Siebert C; Song H; Stapleton A
CORPORATE SOURCE: Bio-Rad Laboratories, BioMaterials Division, Hercules, CA 94547, USA.. ted_tisch@bio-rad.com
SOURCE: Journal of chromatography. A, (1998 Aug 7) Vol. 816, No. 1, pp. 3-9.
Journal code: 9318488. ISSN: 0021-9673.
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199810
ENTRY DATE: Entered STN: 21 Oct 1998
Last Updated on STN: 21 Oct 1998
Entered Medline: 14 Oct 1998
AB Innovations in column-packing media for biomolecule purification have progressed from large spherical, porous polysaccharide beads to advanced polymeric supports. Continuous-bed technology is a radical new technology for chromatography based on the polymerization of advanced monomers and ionomers directly in the chromatographic column. The polymer chains form aggregates which coalesce into a dense, homogeneous network of interconnected nodules consisting of microparticles with an average diameter of 3000 A. The voids or channels between the nodules are large enough to permit a high hydrodynamic flow. Due to the high cross-linking of the polymer matrix, the surface of each nodule is nonporous yet the polymeric

microparticles provide a very large surface area for high binding capacity. This paper will demonstrate the properties and advantages of using a continuous bed support for high resolution biomolecule separations at high flow-rates without sacrificing capacity.

L18 ANSWER 1 OF 7 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:244770 CAPLUS
DOCUMENT NUMBER: 138:272372
TITLE: Three-dimensional crosslinked polymer networks, their preparation process, support materials comprising this network, and their use
INVENTOR(S): Duval, Raphael; Leveque, Hubert
PATENT ASSIGNEE(S): Chiralsep, Fr.
SOURCE: Fr. Demande, 30 pp.
CODEN: FRXXBL
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2829947	A1	20030328	FR 2001-12208	20010921
FR 2829947	B1	20041015		
WO 2003026793	A2	20030403	WO 2002-FR3238	20020923
WO 2003026793	A3	20031127		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1427525	A2	20040616	EP 2002-799426	20020923
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
CN 1575200	A	20050202	CN 2002-820851	20020923
JP 2005503571	T	20050203	JP 2003-530420	20020923
IN 2004CN00582	A	20060113	IN 2004-CN582	20040318
US 2004260081	A1	20041223	US 2004-490356	20040322
NO 2004001627	A	20040621	NO 2004-1627	20040421

PRIORITY APPLN. INFO.: FR 2001-12208 A 20010921
WO 2002-FR3238 W 20020923

AB The present invention relates to a three-dimensional, optically active, crosslinked polymeric network, comprising homochiral units of a first selector and homochiral units of at least a second selector of structure different from the first selector, the homochiral units of the first selector being at least trifunctional and the homochiral units of the second selector being at least bifunctional, the homochiral units being connected chemical between them, excluding crosslinked three-dimensional polymeric networks obtained by reductive amination of chitosan and 2,3-dialdehyde-β-cyclodextrin. The polymer networks are useful for chiral liquid chromatog. stationary phases.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 2 OF 7 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2002:904247 CAPLUS
DOCUMENT NUMBER: 137:387091
TITLE: Manufacture of lithium polymer batteries
INVENTOR(S): Naarmann, Herbert; Kruger, Franz Josef
PATENT ASSIGNEE(S): Dilo Trading Ag, Switz.
SOURCE: Ger. Offen., 6 pp.
CODEN: GWXXBX

DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10122811	A1	20021128	DE 2001-10122811	20010510

PRIORITY APPLN. INFO.: DE 2001-10122811 20010510

AB A lithium polymer battery consists is manufactured by preparing the anode material, the cathode material, and the polymer-gel-electrolyte continuously and sep. at 130-200°C which are coextruded through a nozzle system, provided with conductors and the obtained wires can be wound into a geometric shape. The anode material contains 60-70 weight% of graphite which can intercalate lithium. The cathode contains 55-65 weight% of a heavy metal oxide, such as LiMn2O4, LiCoO2, LiNiO2, or Li-containing tungstate, molybdate,, or titanate. The polymer-gel-electrolyte contains polymer binders based on polyfluoro elastomers, polyolefins, polystyrenes, styrene-butadiene rubbers, or poly(meth)acrylates, as well as poly(N-vinyl)compds., such as polyvinylpyrrolidone, polyvinylimidazole, polyvinylpyridine or their copolymers. The electrolyte also contains 2-15 weight% of a conducting salt, such as LiClO4, LiPF6, LiBF4, LiCF3, lithium oxalato-borates, 10-60 weight% of aprotic solvents, preferably alkyl carbonates, and 1-15 weight% of a structure-supporting material, such as silica, zeolites, or organic crosslinked polymers, such as vinylpyrrilidone-vinylimidazole. 2-8 Weight% of carbon black can be added to the electrode materials to improve the elec. conductivity The conductor is a metal wire with a diameter of 0.1-1 mm and is made of Cu, Al, or Ti.

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1999:426825 CAPLUS
DOCUMENT NUMBER: 131:74629
TITLE: Preparation of crosslinked polycarboxylate ion exchange material for removing toxic metals from aqueous systems
INVENTOR(S): Philipp, Warren H.
PATENT ASSIGNEE(S): USA
SOURCE: U.S., 6 pp., Cont.-in-part of U.S. Ser. No. 755,027, abandoned.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5919831	A	19990706	US 1998-102842	19980623

PRIORITY APPLN. INFO.: US 1995-432364 B3 19950501
US 1995-565587 B2 19951201
US 1996-755027 B2 19961122

AB The title ion exchange material in the form of thin films or composites are made by (A) forming an aqueous solution comprising a water-soluble polymer containing pendent carboxyl groups and a water-soluble polyol, the number of carboxyl groups (in A) being in excess of the number of hydroxyl groups (in B); (B) forming a thin film or a composite with the solution from step (A), the composite comprising the solution in (A) in contact with a support material; (C) drying the solution to form a dried polymer; (D) heating the dried polymer in (C) under esterification conditions to produce a water-insol. partially esterified

crosslinked polymer; and (E) contacting the partially esterified crosslinked polymer in (D) with alkali or alkaline earth metal ions to form the ion exchange material. An aqueous solution containing 10% polyacrylic acid was heated to 40° and mixed with glycerin, spread as a film, dried, heated at 130° for 10 h, and soaked in 1L water containing 45 g Na2CO3.

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1996:212048 CAPLUS
DOCUMENT NUMBER: 124:262525
TITLE: Liquid-absorbing polydioxolans, their composites, and their preparation
INVENTOR(S): Myake, Koji; Harada, Nobuyuki; Nanba, Takashi
PATENT ASSIGNEE(S): Nippon Catalytic Chem Ind, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08020640	A	19960123	JP 1994-156235	19940707

PRIORITY APPLN. INFO.: JP 1994-156235 19940707

AB Title polymers, with no influence of salts on the adsorption and good flexibility, useful for diapers, sanitary napkins, agricultural water-supporting materials, etc., by applying the polymers on base materials (e.g., fibrous, cellular, or plastic film) and crosslinking with radiation to form composites. Thus, 1,3-dioxolan was polymerized to obtain polydioxolan, 5% aqueous solution of which was irradiated with 2.5 Mrad γ-beam to give crosslinked polymer showing absorption of water 35 g/g, 0.9%-aqueous NaCl 37 g/g, artificial sea water 35 g/g, and 0.05%-aqueous CaCl2 38 g/g.

L18 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1987:565582 CAPLUS
DOCUMENT NUMBER: 107:165582
TITLE: Preparation of hologram
INVENTOR(S): Tanaka, Takashi; Nishide, Katsuhiko
PATENT ASSIGNEE(S): Canon K. K., Japan
SOURCE: Jpn. Tokkyo Koho, 8 pp.
CODEN: JAXXAD
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 62022152	B	19870515	JP 1976-89487	19760727
US 4173474	A	19791106	US 1977-819420	19770727

PRIORITY APPLN. INFO.: JP 1976-89487 A 19760727

AB A hologram is obtained by exposing a photosensitive material comprising a polymeric support and a photopolymerizable material dispersed in the above support to the interference pattern produced by a light source, treating the exposed material with a 1st solvent to cover the support material and the photopolymerizable material to swell up in differing degrees and further treating with a 2nd solvent, miscible with the 1st solvent and causing less swelling than 1st solvent to effect contraction of the swollen materials so that the support polymer and the

photopolymerizable material exist in differing swollen states and amplify the differences in their phys. properties which produce differences in n within the support. The photopolymerizable material is a polyfunctional monomer containing ≥2 ethylenic linkages per mol and the support polymer is a non-crosslinked polymer.

L18 ANSWER 6 OF 7 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1976:524733 CAPLUS
DOCUMENT NUMBER: 85:124733
TITLE: Crosslinked polymer with activated ester groups - a versatile, available support material
AUTHOR(S): Koester, Hubert; Heidmann, Walter
CORPORATE SOURCE: Inst. Org. Chem. Biochem., Univ. Hamburg, Hamburg, Fed. Rep. Ger.
SOURCE: Angewandte Chemie (1976), 88(17), 576-7
CODEN: ANCEAD; ISSN: 0044-8249
DOCUMENT TYPE: Journal
LANGUAGE: German
AB Polymerization of ethoxycarbonylmethyl acrylate 17.8, dimethylacrylamide 1.8, and N,N'-ethylenebis(N-methylacrylamid) 0.4 g in aqueous solution with azobisisobutyronitrile for 2 hr each at 60, 70, and 80° gave a reactive polymer [60134-81-8] as a pearl polymer which was or was not macroporous depending upon the presence of inert components such as Bu2O during polymerization Reaction of the polymer with Me2NH in Me2CO-HOAc gave a crosslinked poly(dimethylacrylamide), which could not be obtained directly in pearl form because of the miscibility of dimethylacrylamide with most solvents. Partial hydrolysis of the latter polymer gave a substrate suitable for solid-phase synthesis of oligonucleotides.

L18 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1970:22391 CAPLUS
DOCUMENT NUMBER: 72:22391
TITLE: Graft-copolymer column support material for liquid-liquid partition chromatography
INVENTOR(S): Hornbeck, Robert F.
PATENT ASSIGNEE(S): United States Atomic Energy Commission
SOURCE: U.S., 6 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3478886	A	19691118	US 1967-628249	19670331
PRIORITY APPLN. INFO.:			US 1967-628249 A	19670331

AB A solution of polyethylene glycol (Carbowax 20M) and styrene in MeOH is mixed with a powdered poly(trifluorochloroethylene) (I) support material a nd subjected to γ-irradiation to cause graft polymerization of the polyethylene glycol and styrene onto the I. The graft polymer containing the organic complexing agent bis(2-ethylhexyl) phosphate as the active portion of the stationary phase is used to sep. a group of rare earths (Ce, Nd, Eu, Y, Tm, and Lu) in dilute HCl solution by li q.-liquid partition chromatog. Graft polymers are prepared similarly from poly(vinyl alc.), vinyl acetate, and I, from polyacrylamide, BuOH, and poly(tetrafluoroethylene), from poly(acrylic acid), dimethylsiloxane monomer, and a polyamide, and from a water-soluble starch, Et acrylate, and polypropylene. These 4 graft polymers are useful for chromatographic sepns. or extns. with liquid-liquid systems comprising water and dioxane, alc. or water and MeCOEt, water and cyclohexane, and water and CHCl3, resp.

These graft polymers have hydrophilic properties and organophilic properties for improved chromatographic sepns., and they do not cause tailing, as do previous column packing materials comprising crosslinked polymers which impede the flow of the mobile phase. A low-cost, disposable, glass extraction column or funnel is also described which is smaller than usual columns (separatory funnels) and is suitable for rapid sepns. of species having markedly different mobilities. Thus, a mixture of 20 g Carbowax 20M, 40 ml styrene, 40 ml MeOH, and 200 g I was subjected to γ-irradiation at 30,000 rads/hr for 20 hr. The solution was then filtered, and the homopolymers were separated by washing the insol. graft polymer (filtrate) with toluene. The graft polymer was washed with MeOH, dried, and used to sep. a group of rare earths as described above. No tailing occurred.

L19 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:5895 CAPLUS
DOCUMENT NUMBER: 138:55391
TITLE: Minerals-containing water-absorbing anionic polymer sponge for agriculture
INVENTOR(S): Peppmoeller, Reinmar; Fabritz, Gerhard
PATENT ASSIGNEE(S): Germany
SOURCE: PCT Int. Appl., 20 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003000621	A1	20030103	WO 2002-DE2159	20020613
W: AE, AU, BR, CA, CN, HU, IL, IN, JP, MX, PL, RU, TR, US, ZA				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
DE 10130427	A1	20030327	DE 2001-10130427	20010623
EP 1399397	A1	20040324	EP 2002-754198	20020613
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR				
JP 2005500407	T	20050106	JP 2003-506829	20020613
CN 1633400	A	20050629	CN 2002-816456	20020613
US 2004132869	A1	20040708	US 2004-482255	20040226
ZA 2004005840	A	20041208	ZA 2004-5840	20040722

PRIORITY APPLN. INFO.: DE 2001-10130427 A 20010623
WO 2002-DE2159 W 20020613

AB The invention relates to comminuted mineral substances, preferably finely comminuted igneous rock, bound to a cross-linked polymer that is structured like a sponge and forms a hydrogel. Water-absorbing, hydrogel-forming polymers are known as superabsorbers for use in the hygiene sector. However, their use in the agricultural sector, up to now, is limited due to the fact that they do not supply nutrients to plants. In addition, they have a tendency to float when the soil is wet. Topsoil-like, water-absorbing solid substances having pocket properties can be produced using finely comminuted mineral substances, preferably and/or predominantly igneous rock, which are bound in a cross-linked hydrogel-forming polymer that is structured like a sponge, and by using alkali silicate. The invention provides two production methods for producing acidic and neutral-to-weakly alkaline products. The novel products are preferably used for improving soil. They can still be subsequently filled both with mineral as well as organic and/or synthetic solid substances, and the pockets are closed by withdrawing moisture. This variability enables the products to have addnl. uses, for example, as animal litter, supporting material for superfine particles and as matrix for bactericides, fungicides and pesticides.

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1970:516594 CAPLUS
DOCUMENT NUMBER: 73:116594
TITLE: Preparation and properties of active, insoluble alkaline phosphatase
AUTHOR(S): Zingaro, Ralph A.; Uziel, Mayo
CORPORATE SOURCE: Biol. Div., Oak Ridge Nat. Lab., Oak Ridge, TN, USA
SOURCE: Biochimica et Biophysica Acta, Nucleic Acids and Protein Synthesis (1970), 213(2), 371-9
CODEN: BBNPAS; ISSN: 0005-2787
DOCUMENT TYPE: Journal

LANGUAGE: English

AB One of the problems encountered in the sequential chemical degradation of nucleic acids is asynchrony arising from contamination by alkaline phosphatase during the oxidative elimination step. The residual enzyme activity persists because of its incomplete removal from the RNA during the preceding dephosphorylation step. If the enzyme can be converted into an insol. active form, this problem can be avoided. The coupling of alkaline phosphatase to several water-insol. polymers has been studied. The polymers tested as support materials include: ethylene-maleic anhydride copolymers; polymethylvinyl-maleic acid anhydride copolymer; CM-cellulose azide; linear and cross-linked polymers of methacrylic acid and methacrylic acid fluorodinitroanilide. Prepns. of the enzyme attached to all of the polymers except CM-cellulose azide were fully active toward the synthetic substrate, p-nitrophenylphosphate, and the 4 common nucleoside monophosphates (including 2', 3', and 5' nucleotides). The activity toward nucleic acids is dependent upon the conditions of coupling.

L20 ANSWER 1 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:1152657 CAPLUS
DOCUMENT NUMBER: 146:102943
TITLE: Mathematical modelling of mass transport through a pervaporation membrane
AUTHOR(S): Teleman, Daniela; Balasanian, Ion; Teodosiu, Carmen
CORPORATE SOURCE: Faculty of Chemical Engineering, Department of Chemical Engineering, "Gh. Asachi" Technical University Iasi, Iasi, 700050, Rom.
SOURCE: Environmental Engineering and Management Journal (2006), 5(4), 717-730
CODEN: EEMJAP; ISSN: 1582-9596
PUBLISHER: Ecozone
DOCUMENT TYPE: Journal
LANGUAGE: English
AB This paper presents two different approaches of the solution-diffusion models which was applied in order to describe mass transport through a pervaporation membrane, type Pervap 2201D manufactured by Sulzer Chemtech, Germany. This membrane is a cross-linked polymeric membrane, with an active layer of polyvinyl alc. and a support layer of polyacrylonitrile. Two models were elaborated to describe the exptl. behavior of the membrane and further to allow optimization studies. The models that are discussed in this paper are the short cut model (SCM) and simplified solution diffusion model (SSDM). The effect of the operating temperature on permeation flux in pervaporation was analyzed. In the standard pervaporation processes, both the permeability coefficient of a membrane and the driving force for mass transport are affected by temperature The activation energy, Ej, conventionally obtained from natural logarithm of normalized vs. 1/T plot is a complex parameter characterizing the overall temperature dependence on permeation flux. The activation energy for permeation, Ep, characterizing temperature dependence of membrane permeability should be evaluated from the ln of driving force-normalized flux (Ji/Δa) vs. 1/T data. The evaluation of Ep can be made by subtracting the molar heat of vaporization from Ej. Considering the parameters calculated with the proposed models it was observed that the first model (SCM) did not give accurate prediction of the permeate flux due to the swelling of membrane. The second model (SSDM) was successfully applied to the correlation of exptl. results.
REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 2 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:52633 CAPLUS
DOCUMENT NUMBER: 140:95989
TITLE: Composite semipermeable membranes and their manufacture
INVENTOR(S): Shimazu, Akira; Shintani, Takashi
PATENT ASSIGNEE(S): Nitto Denko Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004016998	A	20040122	JP 2002-178799	20020619

PRIORITY APPLN. INFO.: JP 2002-178799 20020619
AB The title membranes are composed of a separation layer(thickness 0.01-5 μm) made of cross-linked polymers of diacrylate compds. and/or dimethacrylate compds., and having a surface

L20 ANSWER 1 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:1152657 CAPLUS
DOCUMENT NUMBER: 146:102943
TITLE: Mathematical modelling of mass transport through a pervaporation membrane
AUTHOR(S): Teleman, Daniela; Balasanian, Ion; Teodosiu, Carmen
CORPORATE SOURCE: Faculty of Chemical Engineering, Department of Chemical Engineering, "Gh. Asachi" Technical University Iasi, Iasi, 700050, Rom.
SOURCE: Environmental Engineering and Management Journal (2006), 5(4), 717-730
CODEN: EEMJAP; ISSN: 1582-9596
PUBLISHER: Ecozone
DOCUMENT TYPE: Journal
LANGUAGE: English
AB This paper presents two different approaches of the solution-diffusion models which was applied in order to describe mass transport through a pervaporation membrane, type Pervap 2201D manufactured by Sulzer Chemtech, Germany. This membrane is a cross-linked polymeric membrane, with an active layer of polyvinyl alc. and a support layer of polyacrylonitrile. Two models were elaborated to describe the exptl. behavior of the membrane and further to allow optimization studies. The models that are discussed in this paper are the short cut model (SCM) and simplified solution diffusion model (SSDM). The effect of the operating temperature on permeation flux in pervaporation was analyzed. In the standard pervaporation processes, both the permeability coefficient of a membrane and the driving force for mass transport are affected by temperature The activation energy, Ej, conventionally obtained from natural logarithm of normalized vs. 1/T plot is a complex parameter characterizing the overall temperature dependence on permeation flux. The activation energy for permeation, Ep, characterizing temperature dependence of membrane permeability should be evaluated from the ln of driving force-normalized flux (Ji/Δa) vs. 1/T data. The evaluation of Ep can be made by subtracting the molar heat of vaporization from Ej. Considering the parameters calculated with the proposed models it was observed that the first model (SCM) did not give accurate prediction of the permeate flux due to the swelling of membrane. The second model (SSDM) was successfully applied to the correlation of exptl. results.
REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 2 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:52633 CAPLUS
DOCUMENT NUMBER: 140:95989
TITLE: Composite semipermeable membranes and their manufacture
INVENTOR(S): Shimazu, Akira; Shintani, Takashi
PATENT ASSIGNEE(S): Nitto Denko Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004016998	A	20040122	JP 2002-178799	20020619

PRIORITY APPLN. INFO.: JP 2002-178799 20020619
AB The title membranes are composed of a separation layer(thickness 0.01-5 μm) made of cross-linked polymers of diacrylate compds. and/or dimethacrylate compds., and having a surface

roughness of ≥0.3 μm, and a porous support for the separation layer.

L20 ANSWER 3 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2002:131485 CAPLUS
DOCUMENT NUMBER: 136:174395
TITLE: Method for separating heavy isotopes of hydrogen oxide from water
INVENTOR(S): Patterson, James A.; Furlong, Louis E.; Gruber, Martin J.
PATENT ASSIGNEE(S): USA
SOURCE: U.S., 38 pp., Cont.-in-part of U.S. 6,110,373.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 4
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6348153	B1	20020219	US 1999-275335	19990324
US 6110373	A	20000829	US 1998-93459	19980608
CA 2325987	A1	19990930	CA 1999-2325987	19990325
WO 9948586	A1	19990930	WO 1999-US6294	19990325
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9934525	A	19991018	AU 1999-34525	19990325
EP 1067998	A1	20010117	EP 1999-916150	19990325
R: DE, FR, GB				
JP 2003521362	T	20030715	JP 2000-537628	19990325
US 6517708	B1	20030211	US 2000-691081	20001018

PRIORITY APPLN. INFO.:

US 1998-47648	B2	19980325
US 1998-93459	A2	19980608
US 1998-63593	A	19980421
US 1999-275335	A	19990324
WO 1999-US6294	W	19990325

AB A process and apparatus for treating the heavy hydrogen isotope content of the contaminated water by contacting the contaminated water with a mol. separation material including a support medium carrying a plurality of hydration sites having associated waters of hydration, whereby a portion of the waters of hydration are replaced with heavy hydrogen isotope water mols. from the contaminated water. The hydrogen isotope water mol. content of the contaminated water is thus decreased. The mol. separation material is preferably a polymer, such as a polystyrene/divinyl benzene cross-linked polymer, having hydration sites with associated waters of hydration. Preferred hydration sites are obtained by reacting the polymer, which was sulfonated or phosphonated to create reactive sites, with a salt of, for example, aluminum, sodium, magnesium, copper, zinc, cobalt, iron, nickel, manganese, potassium and chromium. Before or during contact with the mol. separation material, the contaminated water may be brought into contact with a separation membrane selectively permeable to light water mols. relative to hydrogen isotope water mols., to remove light water mols. from the water, thereby increasing the concentration of said hydrogen isotope mols.

REFERENCE COUNT: 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 4 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2001:640662 CAPLUS
TITLE: Catalysis through dialysis
AUTHOR(S): Venkataraman, Dhandapani; Anyanwu, Uche K.
CORPORATE SOURCE: Department of Chemistry, University of Massachusetts, Amherst, MA, 01003, USA
SOURCE: Abstracts of Papers, 222nd ACS National Meeting, Chicago, IL, United States, August 26-30, 2001 (2001), ORGN-299. American Chemical Society: Washington, D. C.
CODEN: 69BUZP
DOCUMENT TYPE: Conference; Meeting Abstract
LANGUAGE: English
AB Chemical on soluble polymer-matrixes has received a lot of interest in recent years. This approach, which circumvents the problems associated with the heterogeneous reaction conditions of the traditional solid-phase chemical, using insol. cross-linked polymer supports, is emerging as a viable alternative. Janda and co-workers have pioneered this approach to create combinatorial libraries of reagents and catalysts on soluble polymers such as poly(ethylene glycol) (PEG). The recovery and reuse of these catalysts is of major benefit especially when dealing with chiral catalysts, which can be tremendously expensive to prepare This recovery process however, requires very large excesses of precipitating solvents.We report here, an alternative approach to the development of a reusable soluble polymer supported catalyst. We have synthesized chiral Mn-salen catalysts terminally tethered with PEG oligomers. The supported catalyst is then placed inside a dialysis membrane/bag and this system is then employed in a batch type reaction whereby isolation of reaction products and reuse of the catalyst is effected by dialysis.

L20 ANSWER 5 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2001:426402 CAPLUS
DOCUMENT NUMBER: 135:232968
TITLE: The potentiometric behavior of polymer supported metalloporphyrins as anion-selective electrodes
AUTHOR(S): Oh, K.-C.; Lim, S. M.; Paeng, I. R.; Paeng, K.-J.
CORPORATE SOURCE: Department of Chemistry, Yonsei University, Wonju, 220-710, S. Korea
SOURCE: Journal of Electroanalytical Chemistry (2001), 506(1), 42-47
CODEN: JECHES; ISSN: 0368-1874
PUBLISHER: Elsevier Science S.A.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The potentiometric behavior of polystyrene pyridine copolymer supported manganese (III) and tin (IV) protoporphyrin IX (MnPPIX-PSP4 and SnPPIX-PSP4) was investigated. As expected, both MnPPIX-PSP4 and SnPPIX-PSP4-based membrane electrodes showed size exclusion effects on salicylate, these may be caused by a cross-linked polymer matrix which can act as an asym. cellulose membrane to exclude the bigger sized lipophilic anions such as salicylate. Pyridine attached to the polymer chain can influence the selectivity pattern of the aforementioned membrane electrodes as the axial ligand to the central metal of the porphyrins. The lifetimes of the polymer supported ionophore-based membrane electrodes are significantly enhanced from those of porphyrin-based electrodes and the super-Nernstian phenomenon found on Sn porphyrin-based membrane electrodes also disappeared.
REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 6 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1999:626090 CAPLUS
DOCUMENT NUMBER: 131:249413
TITLE: Apparatus and method for separating oxides of heavy isotopes of hydrogen from water
INVENTOR(S): Patterson, James A.; Furlong, Louis Edward; Gruber, Martin J.; Collins, Gabriel B.
PATENT ASSIGNEE(S): USA
SOURCE: PCT Int. Appl., 84 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 4
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9948586	A1	19990930	WO 1999-US6294	19990325
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 5954968	A	19990921	US 1998-63593	19980421
US 6110373	A	20000829	US 1998-93459	19980608
US 6348153	B1	20020219	US 1999-275335	19990324
CA 2325987	A1	19990930	CA 1999-2325987	19990325
AU 9934525	A	19991018	AU 1999-34525	19990325
EP 1067998	A1	20010117	EP 1999-916150	19990325
R: DE, FR, GB				
JP 2003521362	T	20030715	JP 2000-537628	19990325

PRIORITY APPLN. INFO.:

US 1998-47648	A	19980325
US 1998-63593	A	19980421
US 1998-93459	A	19980608
US 1999-275335	A	19990324
WO 1999-US6294	W	19990325

AB A process and apparatus for treating the heavy H isotope content of the contaminated H2O by contacting the contaminated H2O with a mol. separation material including a support medium carrying a plurality of hydration sites having associated waters of hydration, whereby a portion of the waters of hydration are replaced with heavy H isotope H2O mols. from the contaminated H2O. The H isotope H2O mol. content of the contaminated H2O is thus decreased. The mol. separation material is preferably a polymer, such as a polystyrene/divinyl benzene cross-linked polymer, having hydration sites with associated waters of hydration. Preferred hydration sites are obtained by reacting the polymer which was sulfonated or phosphonated to create reactive sites, with a salt of, for example, Al, Na, Mg, Cu, Zn, Co, Fe, Ni, Mn, K and Cr. Before or during contact with the mol. separation material , the contaminated H2O may be brought into contact with a separation membrane selectively permeable to light H2O mols. relative to H isotope H2O mols., to remove light H2O mols. from the H2O, thereby increasing the concentration of the H isotope mols.
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L20 ANSWER 7 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1997:161696 CAPLUS
TITLE: Molecular imprinted membranes having a cross-linked gel layer prepared by photograft polymerization.

AUTHOR(S): Kobayashi, Takaomi; Wang, Hong Ying; Fujii, Nobuyuki
CORPORATE SOURCE: Department Chemistry, Nagaoka University Technology, Nagaoka, 940-21, Japan
SOURCE: Book of Abstracts, 213th ACS National Meeting, San Francisco, April 13-17 (1997), I&EC-028. American Chemical Society: Washington, D. C.
CODEN: 64AOAA
DOCUMENT TYPE: Conference; Meeting Abstract
LANGUAGE: English

AB Photograft polymerization was applied as a novel approach to the introduction of imprint sites of a template, theophylline, into a cross-linked polymeric gel formed on a membrane support. The asym. membrane of polyacrylonitrile with covalently bound dithiocarbamate photosensitive groups was prepared by a phase inversion method. Photo-irradiation to the membrane surface in the presence of the template methylenebisacrylamide, and acrylic acid results in the formation of a gel layer containing the template. After removal of the template from the membrane, theophylline or caffeine was filtered through the imprinted membrane. Evidence is presented that theophylline is taken into the imprinted sites of the gel network. However, the amts. of caffeine taken into the membrane are lower than that of theophylline. The results demonstrate that the gel network on the membrane surface records the shape of the template mol. during photograft polymerization

L20 ANSWER 8 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1995:959762 CAPLUS
DOCUMENT NUMBER: 124:58212
TITLE: Self-supported porous channel filtration modules: preparation, properties and performance
AUTHOR(S): Akay, G.; Bhumgara, Z.; Wakeman, R. J.
CORPORATE SOURCE: Separation Processes Centre, Univ. of Exeter, Exeter, UK
SOURCE: Chemical Engineering Research and Design (1995), 73(A7), 782-97
CODEN: CERDEE; ISSN: 0263-8762
PUBLISHER: Institution of Chemical Engineers
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The preparation, properties and performance of a novel membrane system are given. This membrane system is based on a highly porous (up to 97%) cross-linked polymeric foam which is produced through the polymerization of a high internal phase emulsion. It is shown that a skin/core structure (asym. membrane) can be achieved in these polymeric foams through the epitaxial polymerization at the interface with a suitable substrate. The porosity of the skin is controlled by the difference ($\Delta\delta = \delta s - \delta m$) between the solubility parameters of the substrate (δs) and the monomer (δm) which constitutes the continuous phase of the high internal phase emulsion. The porosity of the skin layer decreases with decreasing $\Delta\delta$. If $\Delta\delta$ is pos. and high, the surface porosity is identical to the bulk porosity. The thickness of the skin layer (0.1-1 μm) is equal to the wall thickness of the porous polymer which can be controlled through the processing or phase volume of the emulsion. A number of self-supported porous channel (SPC) filtration modules were prepared and used in the crossflow filtration of calcium carbonate (aragonite) and surfactant suspensions. SPC filtration modules are similar to hollow fiber membranes except that the capillaries in SPC modules are self supporting on a microscopic scale. Effects of membrane skin porosity and surface modification on the filtration characteristics of SPC modules are evaluated. The solute deposition mechanism during aragonite suspension filtration is deduced.

L20 ANSWER 9 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1989:458357 CAPLUS
DOCUMENT NUMBER: 111:58357
TITLE: Preparation of modified polymer membranes as supports for the solid phase synthesis of oligonucleotides and peptides
INVENTOR(S): Koester, Hubert; Coull, James M.
PATENT ASSIGNEE(S): Millipore Corp., USA
SOURCE: Eur. Pat. Appl., 21 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 305929	A2	19890308	EP 1988-113978	19880826
EP 305929	A3	19910327		
EP 305929	B1	19960410		
R: DE, FR, GB, IT, NL, SE				
US 4923901	A	19900508	US 1987-93011	19870904
JP 01151596	A	19890614	JP 1988-220577	19880905

PRIORITY APPLN. INFO.: US 1987-93011 A 19870904

AB Modified polymer membranes represented by the formula P-X-Y-N-Z-S [P = flat, permeable polymeric membrane of porous structure, e.g. polyacrylate or polymethacrylate having a free OH or ester function, cross-linked polymer (polydialkylsilandiols, polyvinyl alcs., polyoxyethylenes, polyoxymethylenes), polystyrenes or polysulfones containing aromatic residues, polyesters, and polyamides; X = functional group on the membrane ; Y-N-Z = linker; N = spacer mol., specifically (CH2)n where n = 1-20, NH(CH2)mNHCO(CH2)mCO where m = 1-6, more specifically oligoglycine; Y, Z = the same or different functional group, specifically selected from NH, S, O, NC(S), OC(S), NC(O), OS(O)2, S(O)2, CO, OC(O), NHCO, P(O)O-, OP(O)O-, etc.], useful for the solid phase synthesis of oligonucleotides and peptides, were prepared Thus, an immobilon affinity membrane (IAM) (Millipore Corp.) H2N CH2CH2NH-IAM (3.20g, 0.349 mmol of NH2 group) was reacted sequentially with Fmoc-Nle-Pfp (Fmoc = fluorenylmethyloxycarbonyl, Pfp = pentafluorophenyl) in DMF in the presence of 1-hydroxybenzotriazole, Ac2O in pyridine and piperidine on CH2Cl2 to give H-Nle-NHCH2CH2NH-IAM. This was treated with 20% piperidine in DMF and then acylated with H-HOCH2C6H4OCH2CO2Pfp to give 4-HOCH2C6H4OCH2CO-Nle-NHCH2CH2NH-IAM. Using this as a support, a prothrombin precursor, i.e. Fmoc-Ala-Asn-Lys(BOC)-Gly-Phe-Leu-Glu(OBu)-Glu(OBu)-Val-OCH2C6H4OCH2CO-Nle-NHCH2CH2NH-IAM was prepared by the solid phase method. Removal of the FMOC group followed by cleavage of the peptide from the support with CF3CO2H gave H-Ala-Asn-Lys-Gly-Lys-Gly-Phe-Phe-Leu-Glu-Glu-Val-OH. An oligopeptide dCT-C-C-C-A-G-T-C-A-C-G-A-C-G-T-C) was also synthesized via amidation of the p-nitrophenylester of N-4-benzoyl-3'-O-succinyl-5'-O-dimethoxytrityldeoxycytidine with H2N(CH2)6NH-IAM.

L20 ANSWER 10 OF 10 MEDLINE on STN
ACCESSION NUMBER: 92288215 MEDLINE
DOCUMENT NUMBER: PubMed ID: 1318101
TITLE: Does the Na channel conduct ions through a water-filled pore or a condensed-state pathway?.
AUTHOR: Leuchtag H R
CORPORATE SOURCE: Department of Biology, Texas Southern University, Houston 77004.
SOURCE: Biophysical journal, (1992 Apr) Vol. 62, No. 1, pp. 22-4.
Journal code: 0370626. ISSN: 0006-3495.
PUB. COUNTRY: United States

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199207
ENTRY DATE: Entered STN: 24 Jul 1992
Last Updated on STN: 3 Feb 1997
Entered Medline: 16 Jul 1992

AB Many investigators assert that the ion-conducting pathway of the Na channel is a water-filled pore. This assertion must be reevaluated to clear the way for more productive approaches to channel gating. The hypothesis of an aqueous pore leaves the questions of voltage-dependent gating and ion selectivity unexplained because a column of water can neither serve as a switch nor provide the necessary selectivity. The price of believing in an aqueous pore therefore is a futile search for separate ad hoc mechanisms for gating and selectivity. The fallacy is to assume that only water is available to carry ions rapidly, ignoring the role of the glycoprotein, which can form an elastomeric phase with water. The elastomer is a state of matter, neither liquid nor solid, in which the molecules of a liquid are threaded together with cross-linked polymer chains; it supports fast ion motion (Owen, 1989). An alternative hypothesis for channel gating, based on condensed-state materials science, already exists (Leuchtag, 1988, 1991a). The ferroelectric-superionic transition hypothesis (FESITH) postulates that the Na channel exists in a metastable ordered (closed) state at resting potential and, on threshold depolarization, undergoes a reversible order-disorder phase transition to a less-ordered, ion-conducting (open) state. The ordered state is ferroelectric; the disordered state is a fast ion conductor selective for Li+ and Na+. The basis of the voltage dependence is elevation of transition temperature with electric field, well established in ferroelectrics. FESITH is consistent with single-channel transitions, gating currents, heat and cold block, and other phenomena observed at channel or membrane level.(ABSTRACT TRUNCATED AT 250 WORDS)

L9 ANSWER 74 OF 82 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1980:160140 CAPLUS
DOCUMENT NUMBER: 92:160140
TITLE: Solid porous material coated with cellulose or modified cellulose
INVENTOR(S): Tayot, Jean Louis; Tardy, Michel
PATENT ASSIGNEE(S): Institut Merieux S. A., Fr.
SOURCE: Fr. Demande, 18 pp. Division of Fr. Demande 2,403,098
CODEN: FRXXBL
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2422699	A1	19791109	FR 1978-10738	19780412
PRIORITY APPLN. INFO.:			FR 1978-10738 A	19780412

AB The preparation and applications of solid, porous materials to be used as stationary phases in the chromatog. of biol. macromols. are described. The materials consist of porous, mineral supports coated with a polysaccharide polymer, such as cellulose, or a modified polysaccharide polymer. The porous, mineral supports consist of a metal oxide or of a synthetic or natural derivative of a metal oxide. Aminated biol. mols., of the general structure R1-NH2, such as polyamines, bacterial antigens, globulins, viruses, and hydrolysis products of gangliosides react reversibly with the stationary phases. Thus, a new material was used to sep. the constituents of a mixture of γ-globulins, albumins, and cholera toxin by a single chromatog. step. The chromatog. material consisted of Spherosil XOB 030 on which DEAE dextran was coated and crosslinked. The material was modified further by coupling of lysoganglioside GM1. Elution was carried out with 0.01M phosphate buffer, pH 6.8. The γ-globulins were eluted 1st as a nonabsorbing peak, whereas the albumins were eluted with a buffer containing 10 g NaCl/L. The cholera toxin was eluted after washing the column with citrate buffer pH 218.

L9 ANSWER 74 OF 82 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1980:160140 CAPLUS
DOCUMENT NUMBER: 92:160140
TITLE: Solid porous material coated with cellulose or modified cellulose
INVENTOR(S): Tayot, Jean Louis; Tardy, Michel
PATENT ASSIGNEE(S): Institut Merieux S. A., Fr.
SOURCE: Fr. Demande, 18 pp. Division of Fr. Demande 2,403,098
CODEN: FRXXBL
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2422699	A1	19791109	FR 1978-10738	19780412
PRIORITY APPLN. INFO.:			FR 1978-10738 A	19780412

AB The preparation and applications of solid, porous materials to be used as stationary phases in the chromatog. of biol. macromols. are described. The materials consist of porous, mineral supports coated with a polysaccharide polymer, such as cellulose, or a modified polysaccharide polymer. The porous, mineral supports consist of a metal oxide or of a synthetic or natural derivative of a metal oxide. Aminated biol. mols., of the general structure R1-NH2, such as polyamines, bacterial antigens, globulins, viruses, and hydrolysis products of gangliosides react reversibly with the stationary phases. Thus, a new material was used to sep. the constituents of a mixture of γ-globulins, albumins, and cholera toxin by a single chromatog. step. The chromatog. material consisted of Spherosil XOB 030 on which DEAE dextran was coated and crosslinked. The material was modified further by coupling of lysoganglioside GM1. Elution was carried out with 0.01M phosphate buffer, pH 6.8. The γ-globulins were eluted 1st as a nonabsorbing peak, whereas the albumins were eluted with a buffer containing 10 g NaCl/L. The cholera toxin was eluted after washing the column with citrate buffer pH 218.

L1 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1998:42426 CAPLUS
DOCUMENT NUMBER: 128:90217
TITLE: Thermally immobilized polysaccharide derivatives
INVENTOR(S): Francotte, Eric
PATENT ASSIGNEE(S): Novartis A.-G., Switz.; Francotte, Eric
SOURCE: PCT Int. Appl., 24 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9749733	A1	19971231	WO 1997-EP3225	19970620
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW				
RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
CA 2258508	A1	19971231	CA 1997-2258508	19970620
CA 2258508	C	20060404		
AU 9732619	A	19980114	AU 1997-32619	19970620
EP 907663	A1	19990414	EP 1997-928255	19970620
EP 907663	B1	20040310		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2000512678	T	20000926	JP 1998-502302	19970620
AT 261453	T	20040315	AT 1997-928255	19970620
PT 907663	T	20040630	PT 1997-928255	19970620
ES 2217418	T3	20041101	ES 1997-928255	19970620
PRIORITY APPLN. INFO.:			CH 1996-1608 A	19960627
			WO 1997-EP3225 W	19970620

AB The invention essentially relates to thermally crosslinked polysaccharide derivs. which contained no polymerizable functional groups prior to crosslinking and which are used in particular as support materials for the chromatog. separation of enantiomers. In the thermally crosslinked polysaccharide derivs., the OH groups, as OR groups, have been esterified or/and converted into a carbamate (urethane), with the proviso that the OR groups contained no polymerizable double bonds prior to crosslinking. The thermally crosslinked polysaccharides according to the invention in conditioned form can also be used as pure polymers for the chromatog. separation of enantiomers. Thus, suspending 3.5 g amino silanized silica in a solution of 1.6 g cellulose tris(4-methylbenzoate) and 1.6 g AIBN in CH2Cl2, concentrating on an evaporator and drying gave a silica-supported cellulose derivative

L2 ANSWER 1 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:818458 CAPLUS
DOCUMENT NUMBER: 139:331969
TITLE: Crosslinked polysaccharide and their use as stationary phases for the chromatographic separation of chiral compounds
INVENTOR(S): Oliveros, Laureano
PATENT ASSIGNEE(S): Fr.
SOURCE: PCT Int. Appl., 20 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003085000	A1	20031016	WO 2003-FR1007	20030401
WO 2003085000	A9	20031127		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
FR 2838430	A1	20031017	FR 2002-4445	20020410
FR 2838430	B1	20050722		
AU 2003236877	A1	20031020	AU 2003-236877	20030401
PRIORITY APPLN. INFO.:			FR 2002-4445 A	20020410
			WO 2003-FR1007 W	20030401

AB Crosslinked polysaccharides are used as chiral stationary phases for the chromatog. separation of enantiomers. The crosslinked polysaccharide can be an ester or a carbamate of cellulose, amylose, amylopectin, or chitosan having -O-CO-R or -O-CO-NH-R groups with R representing an alkyl, aryl, or arylalkyl groups wherein the alkyl group has 1-6 C atoms which can be linear or branched and the benzene ring can be substituted by halogen atoms or C1-3-alkyl or alkoxy groups. The crosslinked polysaccharide derivative can be prepared by reacting a polysaccharide derivative with a polyfunctional reagent which reacts with the residual free alc. functions always present in any polysaccharide derivative The crosslinking reagent can be a diacid anhydride or chloride, a diacid, diisocyanate, or a diepoxide. The crosslinked polysaccharide derivative can be supported on silica, alumina, zirconia, graphite, paper, or natural or synthetic macromols. or it can be unsupported and used in the form of micro-spheres.
REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 2 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2002:521794 CAPLUS
DOCUMENT NUMBER: 137:80556
TITLE: Process for manufacture of solid porous separation materials based on polysaccharides
INVENTOR(S): Berg, Hans; Carlsson, Mats
PATENT ASSIGNEE(S): Amersham Biosciences A.B., Swed.
SOURCE: PCT Int. Appl., 16 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent

LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002053598	A2	20020711	WO 2001-EP15014	20011219
WO 2002053598	A3	20021017		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

AU 2002240851	A1	20020716	AU 2002-240851	20011219
US 2004039193	A1	20040226	US 2003-451194	20030619
US 6984733	B2	20060110		
US 2006025585	A1	20060202	US 2005-224574	20050912
PRIORITY APPLN. INFO.:			SE 2000-4928 A	20001229
			WO 2001-EP15014 W	20011219
			US 2003-451194 A1	20030619

AB The process comprises (a) providing an aqueous solution (A) of a polysaccharide (e.g., agarose), (b) solidifying the solution, preferably by transforming the solution to a gel, and (c) optionally crosslinking the polysaccharide, with the proviso that, if step (c) is present, steps (b) and (c) may be carried out simultaneously. The method is characterized in that the polysaccharide provided in step (a) is modified by being inter-molecularly crosslinked to an extent such that the viscosity of solution (A) is ≥110%, preferably ≥200%, of the viscosity of an aqueous solution (B) of the corresponding polysaccharide which has not been inter-molecularly crosslinked and which is present in the same concentration as the inter-molecularly crosslinked polysaccharide is in solution (A). The materials so obtained are useful as support matrixes in separation methods, such as electrophoresis, chromatog. and batch-mode sepns. based on adsorption and/or size exclusion, cell culturing (as microcarriers) etc.

L2 ANSWER 3 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2001:265475 CAPLUS
DOCUMENT NUMBER: 134:281570
TITLE: Crosslinked copolymers based on noncrosslinked polycarboxylic copolymers
INVENTOR(S): Labarre, Denis; Lambert, Nada; Ducos, Cathy; Diancourt, Francis
PATENT ASSIGNEE(S): Societe de Conseils de Recherches et d'Applications scientifiques (S.C.R.A.S.), Fr.
SOURCE: PCT Int. Appl., 24 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001025295	A1	20010412	WO 2000-FR2731	20001003

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN,

YU, ZA, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

FR 2799196	A1	20010406	FR 1999-12363	19991004
FR 2799196	B1	20020208		
EP 1240212	A1	20020918	EP 2000-966257	20001003
EP 1240212	B1	20050420		

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL

AT 293641	T	20050515	AT 2000-966257	20001003
ES 2240177	T3	20051016	ES 2000-966257	20001003
US 7014845	B1	20060321	US 2002-89287	20020326
NO 2002001573	A	20020531	NO 2002-1573	20020403
PRIORITY APPLN. INFO.:			FR 1999-12363 A	19991004
			WO 2000-FR2731 W	20001003

AB The invention concerns crosslinked copolymers based on noncrosslinked polycarboxylic copolymers, said noncrosslinked copolymers containing ≥1 polysaccharide, and the crosslinker contains ≥2 amine groups. The invention also concerns a method for preparing said copolymers and their use in particular as support in pharmaceutical compns. A typical crosslinked polymer is manufactured by mixing 100 g product prepared by reaction of 250 mg chondroitin sulfate with 2.5 mL methacrylic acid in aqueous HNO3 in the presence of Ce ions at 40° with N-(3-dimethylaminopropyl)-N-ethylcarbodimide-HCl 320, diaminohexane 160, and N-hydroxysuccinimide 310 mg and maintaining the pH at 8.5-9.5 for 24 h at 4°.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 4 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2000:175541 CAPLUS
DOCUMENT NUMBER: 132:231251
TITLE: Chloro-, hydroxy- and alkoxysilane reaction products of polysaccharides and oligosaccharides as supports for chiral separations
INVENTOR(S): Duval, Raphael
PATENT ASSIGNEE(S): Institut Francais Du Petrole, Fr.; Chiralsep Sarl; Eka Chemicals AB
SOURCE: Eur. Pat. Appl., 31 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 985681	A1	20000315	EP 1999-402203	19990907
EP 985681	B1	20051109		

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO

FR 2784109	A1	20000407	FR 1998-11377	19980911
FR 2784109	B1	20030926		
AU 9947387	A1	20000608	AU 1999-47387	19990906
AU 769340	B2	20040122		
AT 309272	T	20051115	AT 1999-402203	19990907
ES 2251167	T3	20060416	ES 1999-402203	19990907
CA 2281969	A1	20000311	CA 1999-2281969	19990910
NO 9904410	A	20000313	NO 1999-4410	19990910
JP 2000086703	A	20000328	JP 1999-258783	19990913
PRIORITY APPLN. INFO.:			FR 1998-11377 A	19980911

AB Crosslinked polysaccharide derivs. functionalized to silica by reaction with chlorosilanes, hydroxysilanes, or alkoxysilanes were prepared, in which the substituents are connected to the monosaccharide

units by O or NH fragments, and the substituents have the general formulas: (1) [(X3)Si-W-CH2CH2]mA-Y-, in which m = 0-5; Y = -NH-C(:O)-, -NH-C(:S)-, or -C(:O)-; A = a simple divalent bond, branched or linear C1-21H2-42-alkyl, C7-40-arylene; W is a divalent group, such as (CH2)3-S-; and X = halogen, OH, or alkoxy, and (2) A2-A1-CX4, in which X4 = -O- or -S-; A1 = -NH-; A2 = C6-24-aryl, C7-36-aralkyl, or C7-18-alkylaryl; or (3) NO2. The supports, which can be used as chiral supports for enantiomer sepns., are structurally characterized by chiral saccharide units separated by organic functionalized silica units. The supports have application in the synthesis and separation of enantiomers, especially for use in gas, liquid, and supercrit. chromatog. sepns., electrophoresis, electrochromatog., and membrane sepns.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 5 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1998:42426 CAPLUS
DOCUMENT NUMBER: 128:90217
TITLE: Thermally immobilized polysaccharide derivatives
INVENTOR(S): Francotte, Eric
PATENT ASSIGNEE(S): Novartis A.-G., Switz.; Francotte, Eric
SOURCE: PCT Int. Appl., 24 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9749733	A1	19971231	WO 1997-EP3225	19970620
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW				
RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
CA 2258508	A1	19971231	CA 1997-2258508	19970620
CA 2258508	C	20060404		
AU 9732619	A	19980114	AU 1997-32619	19970620
EP 907663	A1	19990414	EP 1997-928255	19970620
EP 907663	B1	20040310		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2000512678	T	20000926	JP 1998-502302	19970620
AT 261453	T	20040315	AT 1997-928255	19970620
PT 907663	T	20040630	PT 1997-928255	19970620
ES 2217418	T3	20041101	ES 1997-928255	19970620

PRIORITY APPLN. INFO.: CH 1996-1608 A 19960627
WO 1997-EP3225 W 19970620

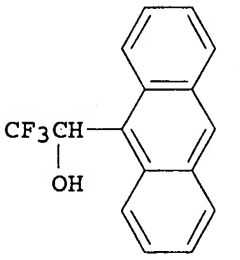
AB The invention essentially relates to thermally crosslinked polysaccharide derivs. which contained no polymerizable functional groups prior to crosslinking and which are used in particular as support materials for the chromatog. separation of enantiomers. In the thermally crosslinked polysaccharide derivs., the OH groups, as OR groups, have been esterified or/and converted into a carbamate (urethane), with the proviso that the OR groups contained no polymerizable double bonds prior to crosslinking. The thermally crosslinked polysaccharides according to the invention in conditioned form can also be used as pure polymers for the chromatog. separation of enantiomers. Thus, suspending 3.5 g amino silanized silica in a

solution of 1.6 g cellulose tris(4-methylbenzoate) and 1.6 g AIBN in CH2Cl2, concentrating on an evaporator and drying gave a silica-supported cellulose derivative

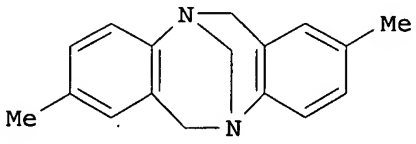
L2 ANSWER 6 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1995:412886 CAPLUS
DOCUMENT NUMBER: 122:213215
TITLE: Optical isomer separating agent and process for producing the same
INVENTOR(S): Murakami, Tatsushi; Ichida, Akito
PATENT ASSIGNEE(S): Daicel Chemical Industries, Ltd., Japan
SOURCE: PCT Int. Appl., 20 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
WO 9500463	A1	19950105	WO 1994-JP992		19940621
W: CN, KR, US					
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE					
JP 08059702	A	19960305	JP 1994-137214		19940620
JP 3190206	B2	20010723			
EP 656333	A1	19950607	EP 1994-918544		19940621
EP 656333	B1	19980902			
R: CH, DE, FR, GB, IT, LI					
CN 1111057	A	19951101	CN 1994-190414		19940621
CN 1042418	B	19990310			
US 5587467	A	19961224	US 1995-374530		19950111
PRIORITY APPLN. INFO.:			JP 1993-149956	A	19930622
			JP 1994-134183	A	19940616
			JP 1994-137214	A	19940620
			WO 1994-JP992	W	19940621

GI



I



IV

AB A polysaccharide derivative is immobilized on a carrier such as silica gel by crosslinking only the polysaccharide derivative with each other by using a polyfunctional crosslinking agent. The polysaccharide derivative is an ester or carbamate derivative of cellulose or amylose having unreacted hydroxy groups ≥0.1/ glucose unit. The polyfunctional crosslinking agents are diisocyanate derivs., dicarboxylic acid chloride derivs., diepoxy derivs., or divinyl derivs. The polysaccharide derivative is crosslinked between the 6-hydroxy groups of cellulose or amylose by the crosslinking agent, on a carrier. The optical isomer separating agent thus obtained is excellent in solvent resistance and is most suitable for use in optical resolution Thus, 4.0 g tritylcellulose (.apprx.0.9-1 trityl groups/glucose unit) was dissolved in dry pyridine followed by adding 10 mL 3,5-dimethylphenyl isocyanate and the resulting mixture was stirred at 100° for 25 h to give, after workup and detritylation with

methanolic HCl, cellulose 2,3-bis(3,5-dimethylphenyl carbamate). This cellulose derivative (1.5 g) was dissolved in THF and uniformly poured over to 5.7 silica gel (Daiso SP-1000) aminopropylated and surface-inactivated by reaction with 3,5-dimethylphenyl isocyanate followed by evaporation of the solvent to give the silica gel-supported cellulose derivative Toluene (35 mL) was added to the latter silica gel-supported cellulose derivative (6.7 g) followed by adding 110 mg diphenylmethane diisocyanate and the resulting mixture was heated at 110° with stirring for 6 h to give, after workup, a cellulose derivative-immobilized silica gel as a resolving agent. This resolving agent was packed in a stainless steel column (inner diameter 0.46 cm + 25 cm) to give a HPLC column for optical resolution, which resolved racemates (I), 2-phenyl-4-chromanone (II), 2-phenylcyclohexanone, benzoin (III), and heterocycle (IV), after the column was washed with various solvents. For comparison, a resolving agent prepared by crosslinking both cellulose and aminopropylated silica gel with 4,4'-diphenylmethane diisocyanate failed to resolve II and III, after the column was washed with solvents.

L2 ANSWER 7 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1995:249739 CAPLUS
DOCUMENT NUMBER: 122:49002
TITLE: Hydrogel-type polymers in the controlled release of phytodrugs
AUTHOR(S): Solaro, R.; D'Antone, S.; Chiellini, E.; Rehab, A.; Akelah, A.; Issa, R.
CORPORATE SOURCE: Department of Chemistry and Industrial Chemistry, University of Pisa, Pisa, 56100, Italy
SOURCE: ACS Symposium Series (1994), 575(Polymers from Agricultural Coproducts), 112-25
CODEN: ACSMC8; ISSN: 0097-6156
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The preparation and structural characterization of polymeric herbicides consisting of 2,4-dichlorophenoxyacetic acid and 4-chloro-2-methylphenoxyacetic acid either covalently or ionically bound to linear and crosslinked polymers are described. Poly(styrene/divinylbenzene) resins, crosslinked polysaccharides, and homo and copolymers of oligo(oxyethylene) monomethacrylates were used as polymeric supports. Herbicide binding was attained by nucleophilic displacement, esterification and ion-exchange reactions. Herbicide release from polymer beads was monitored in water solution buffered at pH 4, 7, and 9. The observed release profiles are discussed in terms of polymer inherent structural features. The release kinetics did not fit simple diffusional schemes while could be satisfactorily reproduced by the contemporary occurrence of two exponential decay processes, differing by two orders of magnitude in their rates.

L2 ANSWER 8 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1994:694943 CAPLUS
DOCUMENT NUMBER: 121:294943
TITLE: Herbicide containing polymers: synthesis and release properties
AUTHOR(S): Solaro, Roberto; D'Antone, Salvatore; Chiellini, Emo; Rehab, Ahmed; Akelah, Ahmed; Issa, Raafat
CORPORATE SOURCE: Dipartimento di Chimica e Chimica Industriale, Universita di Pisa, Italy
SOURCE: Chimica e l'Industria (Milan) (1993), 75(7), 535-47
CODEN: CINMAB; ISSN: 0009-4315
PUBLISHER: Editrice Bias Sas
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English
AB A review with 27 refs. of author work done on the preparation and structural characterization of polymeric herbicides consisting of 2,4-D and MCPA

either covalently or ionically bound to linear and crosslinked polymer matrixes at different degree of crosslinking. Poly(styrene-divinylbenzene) resins, crosslinked polysaccharides, and homo and copolymers of oligo(oxyethylene) monomethacrylates were used as polymeric supports. Herbicide binding was attained by nucleophilic displacement, esterification and ion-exchange. Herbicide release from polymer bends loaded with 0.3-1.5 mmol of herbicide/g dry polymer was monitored in water solution buffered at pH 4, 7 and 9. The observed release profiles are discussed in terms of the polymer inherent structural features. In any case the release kinetics do not fit a simple diffusional scheme and they can be reproduced by the contemporary occurrence of two exponential decay processes, differing by three orders of magnitude in their absolute rates.

L2 ANSWER 9 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1985:4356 CAPLUS
DOCUMENT NUMBER: 102:4356
TITLE: Purification of hepatitis B virus surface antigen
INVENTOR(S): Kawahara, Tetsuo; Mizokami, Hiroshi; Mizuno, Kyosuke; Susumi, Sadao
PATENT ASSIGNEE(S): Chemo-Sero-Therapeutic Research Institute, Japan
SOURCE: Eur. Pat. Appl., 20 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 118885	A2	19840919	EP 1984-102501	19840308
EP 118885	A3	19850515		
EP 118885	B1	19881026		
R: AT, BE, CH, DE, FR, GB, IT, LI, NL, SE				
JP 59164727	A	19840917	JP 1983-39837	19830309
JP 05085527	B	19931207		
JP 59219239	A	19841210	JP 1983-94495	19830528
JP 02035726	B	19900813		
US 4515714	A	19850507	US 1984-586702	19840306
CA 1216790	A1	19870120	CA 1984-449009	19840307
AT 38152	T	19881115	AT 1984-102501	19840308

PRIORITY APPLN. INFO.:
JP 1983-39837 A 19830309
JP 1983-94495 A 19830528
EP 1984-102501 A 19840308

AB An improved method for purification of hepatitis B surface antigen by column chromatog. is described. The antigen is purified on a sulfated, crosslinked polysaccharide or cellulose, and then can be used as a vaccine. This column support is preferable to the use of affinity gels which are produced by using CNBr. Thus, pyridine is added dropwise to chlorosulfonic acid, then heated at 60-70°. Epichlorohydrine-crosslinked dextran (Sephadex G-50) is added. After the reaction and neutralization, the crosslinked dextran sulfate is obtained. Hepatitis B surface antigen was isolated from human serum by chromatog. on the dextran sulfate and elution with 0.6M NaCl-0.027M McIlvaine's buffer soln, pH 7.38. The degree of purification is .apprx.10.9-fold.

L2 ANSWER 10 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1982:488257 CAPLUS
DOCUMENT NUMBER: 97:88257
TITLE: Activated matrix and method of activation
INVENTOR(S): Ayers, John S.; Bethell, Geoffrey S.; Hancock, William S.; Hearn, Milton T. W.
PATENT ASSIGNEE(S): Development Finance Corp. of New Zealand, N. Z.

SOURCE: U.S., 12 pp. Cont.-in-part of U.S. 4,224,439.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4330440	A	19820518	US 1980-128847	19800310
US 4224439	A	19800923	US 1978-874628	19780202
PRIORITY APPLN. INFO.:			US 1978-874628 A2	19780202
			NZ 1977-183283 A	19770208

AB Crosslinked polysaccharides (e.g. agarose, dextran, cellulose), their copolymers with synthetic polymers (e.g. acrylamides), acrylates, and methacrylates), or rigid supports (e.g. silica beads, coated with hydroxyalkyl groups) are activated by carbonylation with N,N'-carbonyldiimidazole(CDI), N,N'-carbonyldi-1,2,4-triazole, and N,N'-carbonyldi-1,2,3-benzotriazole and then coupled to various ligands for use as stationary phases for chromatog. or immobilization of biol. compds. The greatest advantage of using the carbonylating agents instead of CNBr for activation is that no charged groups are introduced into the matrix during the coupling steps. In 1 example, Sepharose CL 6B was activated with CDI, coupled to soybean trypsin inhibitor (with or without the spacer compound 6-aminohexanoic acid), and used for the affinity chromatog. of trypsin. Results of the activation of other common matrixes by carbonylation are described.

L8 ANSWER 1 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:363133 CAPLUS
DOCUMENT NUMBER: 141:187869
TITLE: Extracellular cross-linking of xylan and xyloglucan in maize cell-suspension cultures: the role of oxidative phenolic coupling
AUTHOR(S): Kerr, Ellen M.; Fry, Stephen C.
CORPORATE SOURCE: Institute of Cell and Molecular Biology, The Edinburgh Cell Wall Group, The University of Edinburgh, Edinburgh, EH9 3JH, UK
SOURCE: Planta (2004), 219(1), 73-83
CODEN: PLANAB; ISSN: 0032-0935
PUBLISHER: Springer-Verlag
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Cell-suspension cultures of maize (Zea mays) released soluble extracellular polysaccharides (SEPs) into their medium. Some or all of the SEPs had feruloyl ester groups. Pulse-labeling with [3H]arabinose was used to monitor changes in the SEPs' Mr (estimated by gel-permeation chromatog.) with time after synthesis. Newly released 3H-SEPs were 1.3-1.6 MDa, but between 2 days and 3 days after radiolabeling (in one experiment) or between 5 days and 6 days (in another), the 3H-SEPs abruptly increased to ≈17 MDa, indicating extensive crosslinking. The crosslinking involved both [3H]xylan and [3H]xyloglucan components of the SEPs. The crosslinks could be cleaved by alkali, returning the SEPs to their original Mr. In 0.1 M NaOH at 37°C, 58% cleavage was effected within 24 h. The requirement for such prolonged alkali treatment indicates that ester-bonded (e.g., diferuloyl) groups were not solely responsible for the crosslinking. Bonds cleaved only by relatively severe alkali could include benzyl ether linkages formed between sugar residues and oxidized phenolics that had quinone methide structures. The ability of alkali to cleave the crosslinks was independent of the age of the 3H-SEP mols. Crosslinking of 3H-SEPs in vivo was delayed (up to approx. 7 days after radiolabeling) by exogenous sinapic acid, chlorogenic acid or rutin-agents predicted to compete with the oxidative coupling of feruloyl-polysaccharides. The crosslinking was promoted by exogenous ferulic acid or L-tyrosine, possibly because these compds. acted as precursors for polysaccharide feruloylation, thus providing addnl. partner substrates for the oxidative coupling of previously formed 3H-SEPs. The ability of certain phenolics to prevent the crosslinking of 3H-SEPs supports the idea that the crosslinking involved phenolic oxidation
REFERENCE COUNT: 52 THERE ARE 52 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 2 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2002:521794 CAPLUS
DOCUMENT NUMBER: 137:80556
TITLE: Process for manufacture of solid porous separation materials based on polysaccharides
INVENTOR(S): Berg, Hans; Carlsson, Mats
PATENT ASSIGNEE(S): Amersham Biosciences A.B., Swed.
SOURCE: PCT Int. Appl., 16 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002053598	A2	20020711	WO 2001-EP15014	20011219

WO 2002053598			A3	20021017											
W:	AE,	AG,	AL,	AM,	AT,	AU,	AZ,	BA,	BB,	BG,	BR,	BY,	BZ,	CA,	CH,	CN,
	CO,	CR,	CU,	CZ,	DE,	DK,	DM,	DZ,	EC,	EE,	ES,	FI,	GB,	GD,	GE,	GH,
	GM,	HR,	HU,	ID,	IL,	IN,	IS,	JP,	KE,	KG,	KP,	KR,	KZ,	LC,	LK,	LR,
	LS,	LT,	LU,	LV,	MA,	MD,	MG,	MK,	MN,	MW,	MX,	MZ,	NO,	NZ,	PH,	PL,
	PT,	RO,	RU,	SD,	SE,	SG,	SI,	SK,	SL,	TJ,	TM,	TR,	TT,	TZ,	UA,	UG,
	US,	UZ,	VN,	YU,	ZA,	ZW										
RW:	GH,	GM,	KE,	LS,	MW,	MZ,	SD,	SL,	SZ,	TZ,	UG,	ZM,	ZW,	AT,	BE,	CH,
	CY,	DE,	DK,	ES,	FI,	FR,	GB,	GR,	IE,	IT,	LU,	MC,	NL,	PT,	SE,	TR,
	BF,	BJ,	CF,	CG,	CI,	CM,	GA,	GN,	GQ,	GW,	ML,	MR,	NE,	SN,	TD,	TG
AU 2002240851			A1	20020716		AU 2002-240851								20011219		
US 2004039193			A1	20040226		US 2003-451194								20030619		
US 6984733			B2	20060110												
US 2006025585			A1	20060202		US 2005-224574								20050912		
PRIORITY APPLN. INFO.:						SE 2000-4928							A	20001229		
						WO 2001-EP15014							W	20011219		
						US 2003-451194							A1	20030619		

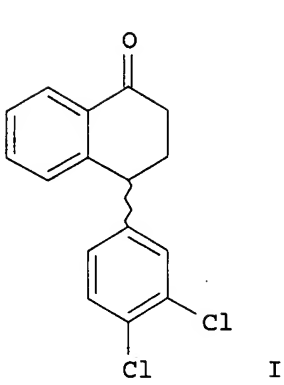
AB The process comprises (a) providing an aqueous solution (A) of a polysaccharide (e.g., agarose), (b) solidifying the solution, preferably by transforming the solution to a gel, and (c) optionally crosslinking the polysaccharide, with the proviso that, if step (c) is present, steps (b) and (c) may be carried out simultaneously. The method is characterized in that the polysaccharide provided in step (a) is modified by being inter-molecularly crosslinked to an extent such that the viscosity of solution (A) is ≥110%, preferably ≥200%, of the viscosity of an aqueous solution (B) of the corresponding polysaccharide which has not been inter-molecularly crosslinked and which is present in the same concentration as the inter-molecularly crosslinked polysaccharide is in solution (A). The materials so obtained are useful as support matrixes in separation methods, such as electrophoresis, chromatog. and batch-mode sepns. based on adsorption and/or size exclusion, cell culturing (as microcarriers) etc.

L8 ANSWER 3 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN

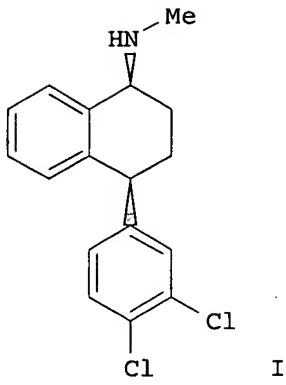
ACCESSION NUMBER:	2002:381736 CAPLUS
DOCUMENT NUMBER:	136:355076
TITLE:	Method for resolving a tetralone intermediate in the production of sertraline by chiral chromatography on modified macrocyclic saccharide stationary phases using a carbon dioxide-based eluent
PATENT ASSIGNEE(S):	Chiralsep S.A., Fr.
SOURCE:	Fr. Demande, 34 pp. CODEN: FRXXBL
DOCUMENT TYPE:	Patent
LANGUAGE:	French
FAMILY ACC. NUM. COUNT:	1
PATENT INFORMATION:	

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2810978	A1	20020104	FR 2000-8444	20000629
FR 2810978	B1	20040528		
PRIORITY APPLN. INFO.:			FR 2000-8444	20000629

GI



I



II

AB Tetralone derivative I, an intermediate for the antidepressant sertraline (II), is resolved to give the desired (S)-I isomer by enantioselective chromatog. on a stationary phase containing macrocyclic heterotopic coreceptors, using a carbon dioxide-containing eluent in a supercrit., critical, or subcrit. state. In particular, the stationary phase comprises modified cyclodextrins, oligosaccharides, or polysaccharides, crosslinked with the aid of bifunctional compds. to create chiral 3-dimensional cavities or macrocyclic cages. For instance, β-cyclodextrin in pyridine was reluxed to remove H2O, then treated with 4-octenyloxyphenyl isocyanate, treated with 3,4-dimethylphenyl isocyanate, worked up, mixed with a polyamide support, and treated with trithiocyanuric acid and benzoyl peroxide, to give a stationary phase designated CHM-LC73. (±)-I was eluted from this phase using CO2 containing 20% MTBE, at 150 bar and 40°, giving (S)-I as the second peak, with a selectivity factor α = 1.40, and a resolution Rs = 6.5.

L8 ANSWER 4 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2002:282777 CAPLUS
DOCUMENT NUMBER: 137:46692
TITLE: Molecular structures and associations of humic substances in the terrestrial environment
AUTHOR(S): Simpson, Andre J.; Kingery, William L.; Hayes, Michael H. B.; Spraul, Manfred; Humpfer, Eberhard; Dvortsak, Peter; Kerssebaum, Rainer; Godejohann, Markus; Hofmann, Martin
CORPORATE SOURCE: Department of Chemistry, Ohio State University, Columbus, OH, 43210, USA
SOURCE: Naturwissenschaften (2002), 89(2), 84-88
CODEN: NATWAY; ISSN: 0028-1042
PUBLISHER: Springer-Verlag
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Here the authors show, for the first time, evidence of the primary mol. structures in humic substances (HS), the most abundant naturally occurring organic mols. on Earth, and their assocns. as mixts. in terrestrial systems. Multi-dimensional NMR expts. show that the major mol. structural components in the mixts. operationally defined as HS are aliphatic acids, ethers, esters and alcs.; aromatic lignin derived fragments; polysaccharides and polypeptides. By means of diffusion ordered spectroscopy, distinct diffusion coeffs. consistent with relatively low mol. weight mols. were observed for all the components in the mixts., and saccharides were the largest single class of component present. Liquid chromatog. NMR confirmed that HS components can be easily separated and nuclear Overhauser effect (NOE) enhancements support the finding that the components are of relatively low mol. weight < .apprx.2000 Da. The

widely recognized properties of HS, i.e., characteristics indicative of crosslinked, macromol. networks, can now be explained as aggregation of mixts., most likely instigated by complexation with metal cations.

REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 5 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2000:175542 CAPLUS
DOCUMENT NUMBER: 132:231252
TITLE: Chiral supports, stationary phases, and substrates based on polysaccharides and oligosaccharides crosslinked with bissilane-, bisthioether-, bissulphoxyde-, bissulphone- and butanediyl derivatives
INVENTOR(S): Duval, Raphael
PATENT ASSIGNEE(S): Institut Francais Du Petrole, Fr.; Chiralsep Sarl; Eka Chemicals AB
SOURCE: Eur. Pat. Appl., 32 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 985682	A1	20000315	EP 1999-402204	19990907
EP 985682	B1	20051207		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, CY				
FR 2784108	A1	20000407	FR 1998-11376	19980911
AU 9947345	A1	20000608	AU 1999-47345	19990902
AU 769244	B2	20040122		
AT 312121	T	20051215	AT 1999-402204	19990907
ES 2252924	T3	20060516	ES 1999-402204	19990907
CA 2281973	A1	20000311	CA 1999-2281973	19990910
NO 9904411	A	20000313	NO 1999-4411	19990910
JP 2000086702	A	20000328	JP 1999-258550	19990913
US 2001029282	A1	20011011	US 2001-838284	20010420
US 6677446	B2	20040113		
US 2004068106	A1	20040408	US 2003-694844	20031029

PRIORITY APPLN. INFO.:
FR 1998-11376 A 19980911
US 1999-394905 B3 19990913
US 2001-838284 A3 20010420

AB Chiral polysaccharide compns. consist of chiral monosaccharide units (as part of polysaccharide or oligosaccharide chains) crosslinked by components of general structures -X-Y-A[CH2-CHR-CHR-CH2]m-A-Y-X- (I) or -X-Y-A[CH2-CHR-L-CHR-CH2]m-A-Y-X (II), in which X = O or NH; m is a nonzero number <5; R = H or C1-8-alkyl-; Y is a single bond, -NHC(:O)-, -NHC(:S), or -C(:O)-; A is a single bond or C1-21-alkylene; L is a bis-thioether (of general formula -S-W1-W2-W3-S-), a bis-sulfoxide (of general formula -SO-W1-W2-W3-SO-), a bis-sulfone (of general formula -SO2-W1-W2-W3-SO2-), a bis-silane [of general formula -Si(R5)2-R4-Si(R5)2-], in which W1 and W3 are d C1-21-alkylene, C6-18-arylene, or C7-40-aralkylene; -W2 is a single bond, W1, O, S, or a sym. diester of formula -OC(:O)-W1-C(:O)O-, R5 is C1-5-alkyl or H, R4 is -R6-Si[(R5)2-R6-]n (in which R6 is (CH2)o, or O; n = 0-3000, and o = 0-10). The arylene radicals I and II can be substituted by one or more substituents, selected by halogen, C1-4-alkyl, C1-4-alkoxy, and NO2. The monosaccharide chiral units are located at the terminus of structures I and II, such that the overall compns. have the following structures: (MS)-X-Y-A[CH2-CHR-CHR-CH2]m-A-Y-X-(MS) and (MS)-X-Y-A[CH2-CHR-L-CHR-CH2]m-A-Y-X-(MS), in which X, Y, A, R, L, and m are the same as in I and II, and

the monosaccharide chiral unit (MS) is part of a linear, branched, or cyclic polysaccharide or oligosaccharide. The compns., which can be polymerized in the presence of a solvent and stabilizers, or deposited on a support, are useful as chiral stationary phases for gas, liquid, and supercrit. chromatog., especially for separation of enantiomers.
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 6 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1998:481262 CAPLUS
DOCUMENT NUMBER: 129:265942
TITLE: Ion capacity of siliceous sorbents with surface polymer layers composed of different dextran-triethylenetetraamine mixtures (ion capacity of sorbents with surface polymer layers)
AUTHOR(S): Dawidowicz, Andrzej L.; Wianowska, Dorota; Pikus, Stanislaw; Kobylas, Elzbieta; Radkiewicz, Stanislaw
CORPORATE SOURCE: Faculty of Chemistry, Maria Curie Sklodowska University, Lublin, 20 031, Pol.
SOURCE: Adsorption Science & Technology (1998), 16(4), 263-271
CODEN: ASTEEZ; ISSN: 0263-6174
PUBLISHER: Multi-Science Publishing Co. Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The formation of a polymer layer on the surface of a siliceous support employed for chromatog. is one of the methods available for protecting the SiO2 skeleton from dissoln. in the mobile alkaline phase and for eliminating the neg. influence of silanol groups on separated mols. A polysaccharide-polyimine copolymer can play the role of the surface layer, especially in siliceous materials, for high performance affinity chromatog. The results presented here demonstrate the utility of the material with such a copolymer layer as a sorbent for metal ions. The ion capacity of sorbents with a copolymer layer composed of triethylenetetraamine-dextran can be changed both by the composition of the mixture and by the amount of crosslinking agent present. The presence of a transition layer on the polymer layer surface explains the distinctions between the ion capacity of sorbents and the concentration of electron-donor N atoms existing in the material.
REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 7 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1995:823824 CAPLUS
DOCUMENT NUMBER: 123:222780
TITLE: New ether-linked ferulic acid-coniferyl alcohol dimers identified in grass straws.
AUTHOR(S): Jacquet, Geraldine; Pollet, Brigitte; Lapierre, Catherine; Mhamdi, Farida; Rolando, Christian
CORPORATE SOURCE: Laboratoire de Chimie Biologique, Institut National Agronomique, Thiverval-Grignon, F 78850, Fr.
SOURCE: Journal of Agricultural and Food Chemistry (1995), 43(10), 2746-51
CODEN: JAFCAU; ISSN: 0021-8561
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Grass cell walls are typified by ferulic esters linked to polysaccharides. In past research, these feruloylated esters have been repeatedly speculated to be crosslinking agents with lignins, via ether bonds. Whereas this hypothesis is strongly supported by degradative studies, model expts., and NMR data, diagnostic fragments associating ferulic acid and lignin precursors, through an ether bond, have never been isolated from grass walls. This paper reports the isolation of such products by saponification of wheat and oat

straws. New dimers associating ferulic acid to the β position of coniferyl alc. are characterized by gas chromatog./mass spectrometry and authenticated by independently synthesized compds. The biochem. implication is that ferulate esters are copolymd. with lignin precursors through oxidative coupling. These ferulate esters thereby provide points of growth for the polymer lignin, via ether bonds that anchor lignins to wall polysaccharides.

L8 ANSWER 8 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1992:553114 CAPLUS
DOCUMENT NUMBER: 117:153114
TITLE: Heparin substitute and its manufacture
INVENTOR(S): Itoyama, Mitsunori; Miyazawa, Fumio
PATENT ASSIGNEE(S): Fuji Spinning Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 04126702	A	19920427	JP 1990-246641	19900917
JP 06078370	B	19941005		

PRIORITY APPLN. INFO.: JP 1990-246641 19900917
AB A biopolymer-compatible water-insol. polysaccharide, useful as chromatog. supports, is manufactured from porous, particulate chitosan by N-re-acetylating, crosslinking, sulfonating, and oxidizing. Thus, dropwise adding a solution of chitosan (deacetylation degree 82%, average mol. weight 50,000) 100, AcOH 50, and water 1850 g into a 5% NaOH solution via a nozzle having diameter 0.15 mm, washing the coagulated particles, replacing moisture in the particles with EtOH, drying, acetylating with Ac2O, crosslinking the acetylated chitosan with ethylene glycol diglycidyl ether in dioxane, washing with DMF, sulfonating with DMF-SO3, neutralizing with a 1 N NaOH solution, oxidizing with an aqueous solution of 1:99 H2CrO4-HOAc mixture, and washing gave a water-insol. heparin-like product with sulfonation degree 13.0 μmol/mL, COOH content 32.73 μmol/mL, and 1% cow lactoferrin adsorption 21.55 mg/mL.

L8 ANSWER 9 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1988:592713 CAPLUS
DOCUMENT NUMBER: 109:192713
TITLE: Sulfoalkylcellulose composite membranes for concentration-separation of organic compound aqueous solution
INVENTOR(S): Karakane, Hiroki; Komada, Hajime; Honda, Zenjiro
PATENT ASSIGNEE(S): Agency of Industrial Sciences and Technology, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 63126504	A	19880530	JP 1986-271702	19861117
JP 04023569	B	19920422		

PRIORITY APPLN. INFO.: JP 1986-271702 19861117
AB The title membranes are prepared by coating a polysulfone porous membrane support with a hydrophilic layer (thickness ≤3 μm)

containing the crosslinking reaction product (a) water-soluble polysaccharides containing hydroxysulfonate groups and/or sulfonate groups, such as sulfoethylcellulose (I) or its alkali metal salts and (b) polyfunctional epoxy compds. such as diglycidyl ether (II) or glycerol diglycidyl ether. Thus, a polyethersulfone (DUS-40) porous membrane support was coated with a hydrophilic layer (thickness 1.8 μm) containing 90:10 weight ratio I-II copolymer. The composite membrane was then tested in the pervaporation of an EtOH-water mixture at 83°, resulting in the permeation rate of 0.16 kb/m2.h vs. 0.15 for a non-coated porous membrane.

L8 ANSWER 10 OF 10 MEDLINE on STN
ACCESSION NUMBER: 2002304823 MEDLINE
DOCUMENT NUMBER: PubMed ID: 12046627
TITLE: Molecular structures and associations of humic substances in the terrestrial environment.
AUTHOR: Simpson Andre J; Kingery William L; Hayes Michael H B; Spraul Manfred; Humpfer Eberhard; Dvortsak Peter; Kerssebaum Rainer; Godejohann Markus; Hofmann Martin
CORPORATE SOURCE: Department of Chemistry, Ohio State University, Columbus 43210, USA.. asimpson@chemistry.ohio-state.edu
SOURCE: Die Naturwissenschaften, (2002 Feb) Vol. 89, No. 2, pp. 84-8.
Journal code: 0400767. ISSN: 0028-1042.
PUB. COUNTRY: Germany: Germany, Federal Republic of
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200207
ENTRY DATE: Entered STN: 6 Jun 2002
Last Updated on STN: 9 Jul 2002
Entered Medline: 8 Jul 2002

AB Here we show, for the first time, evidence of the primary molecular structures in humic substances (HS), the most abundant naturally occurring organic molecules on Earth, and their associations as mixtures in terrestrial systems. Multi-dimensional nuclear magnetic resonance (NMR) experiments show us that the major molecular structural components in the mixtures operationally defined as HS are aliphatic acids, ethers , esters and alcohols; aromatic lignin derived fragments; polysaccharides and polypeptides. By means of diffusion ordered spectroscopy, distinct diffusion coefficients consistent with relatively low molecular weight molecules were observed for all the components in the mixtures, and saccharides were the largest single class of component present. Liquid chromatography NMR confirmed that HS components can be easily separated and nuclear Overhauser effect (NOE) enhancements support the finding that the components are of relatively low molecular weight <approximately 2,000 Da. The widely recognized properties of HS, i.e., characteristics indicative of crosslinked , macromolecular networks, can now be explained as aggregation of mixtures, most likely instigated by complexation with metal cations.